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AMIGAACTIVE

ISSUE 19

APRIL 2001

Zoned!

Digital Art

Powered Up!

The latest on MorphOS

Payback!

Good, you made it. There's something going down on page 49. I want you to find out what it is, but be careful.

Netted!

Eye-Surf

Scripted!

GoldEd

Predicted!

MathEngine

Previewed!

iFusion

Bitmap Bonus!

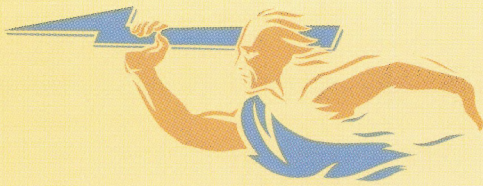
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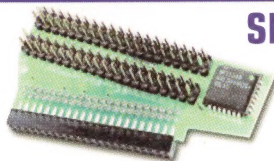
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SEE PAGE 17



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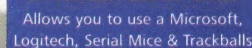
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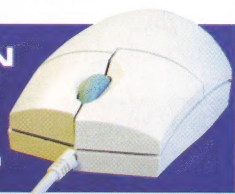
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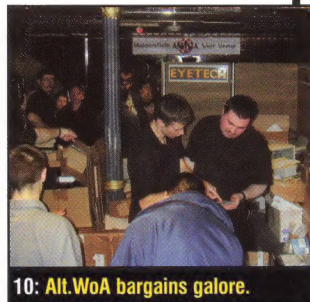
Stay Secure online with the help of a cookie or two...

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They burn rubber, shoot at you if you do the slightest thing to upset them and don't stop for pedestrians. No, not the youths who hang around your local corner shop at midnight... the policemen in Payback!



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ACTIVE ONLINE

Security is the key

Secure Socket Layers, encryption, private keys, certificates and cookies. Active Online dips its hand into the black art...

There's a lot of talk about security these days. It's not just the big corporations that are worried about it, but even the little guy. And for good reason. The Internet is a vast, open network, and anyone can access it. That means anyone can steal your information. So how do you protect it? The answer is security. And there are several ways to do it. One is to use Secure Socket Layers (SSL). SSL is a protocol that encrypts data as it travels over the Internet. This means that anyone who intercepts the data won't be able to read it. Another way to protect your information is to use cookies. Cookies are small files that are stored on your computer. They can be used to track your online activity, but they can also be used to protect your information. For example, a website can use cookies to remember your login information, so you don't have to enter it every time you visit the site. So, how do you know if a website is secure? Look for the padlock icon in your browser's address bar. This indicates that the website is using SSL. And if you see a warning message, it's probably because the website's certificate is expired or invalid. In that case, you should be cautious. Security is a complex topic, but it's one that everyone should be aware of. By taking a few simple steps, you can protect your information and keep it safe.



12: Better off going digital?

"...whenever you connect to a site using SSL, you can be sure you are communicating with who you think you are..."

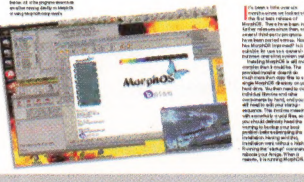
When you connect to a website, you are sending data back and forth. This data can be intercepted by anyone who is on the same network. To protect this data, websites use Secure Socket Layers (SSL). SSL is a protocol that encrypts data as it travels over the Internet. This means that anyone who intercepts the data won't be able to read it. Another way to protect your information is to use cookies. Cookies are small files that are stored on your computer. They can be used to track your online activity, but they can also be used to protect your information. For example, a website can use cookies to remember your login information, so you don't have to enter it every time you visit the site. So, how do you know if a website is secure? Look for the padlock icon in your browser's address bar. This indicates that the website is using SSL. And if you see a warning message, it's probably because the website's certificate is expired or invalid. In that case, you should be cautious. Security is a complex topic, but it's one that everyone should be aware of. By taking a few simple steps, you can protect your information and keep it safe.



12: Better off going digital?

MorphOS

The PowerPC Amiga OS has been updated again, so, does it float like a butterfly, or sting like a bee?



22: MorphOS

General Workbench emulation

converting legacy many applications to run on the new OS.



25: iFusion

Features

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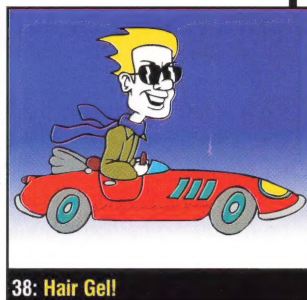
Digital photography is a tool of convenience, but that doesn't mean you need to compromise on quality.



14: Get the most from your digicam

27 Mini Masterclass

Scared of SCSI? Troubled by termination? Disillusioned about daisy-chaining? The first in a new series of Mini Masterclasses will put you straight.



38: Hair Gell

38 DrawStudio

To finish our DrawStudio Masterclass, we take a look at a few of the program's more advanced features and show you what you can do with the images you've already created.



42: Internal commands.

42 Active ARexx

GoldED is the next program to get the Active ARexx treatment. In this installment, we show you how to copy text between documents with the click of a button, and assign commands to keyboard shortcuts, among other things!

AACD 19

OS3.9 Updates

Some items didn't make it onto the OS 3.9 CD, because the CD had to be burned in time for the Cologne show and they weren't ready. Now we can let you have the Reaction version of GenesisPrefs and Locale files in a number of languages.



Sid4Amiga

Many of us still have fond memories of the C64's SID tunes. This month we bring you the full version of Sid4Amiga, a player for SID music. We also have a few SID tunes for you to listen to. We would have included more, but the CD is very tight on space this month, so watch out for some more next month.

ToolsDaemon for OS 3.9

ToolsDaemon has long been a favourite way of adding extra menus to Workbench. It's always been described as an illegal system hack that was likely to break on a future OS update, and OS 3.9 made this come true. Now we have an update to ToolsDaemon that makes it work with OS 3.9.

Magazine Articles

Look in the AACD/Magazine drawer for anything related to articles in the magazine. This includes all the files for the Online tutorial and the programs reviewed in Active Shareware, as well as a demo of Payback to go with the full review which starts on page 49.

Resources

This drawer is on every AACD and contains a range of essential programs. If you get stuck, or you need to start again after a hard drive problem, this is the place to look.

As always, this is only scratching the surface. Double-click the Welcome icon and have a good browse around the CD for yourself. Our easy-to-use Search program will help if you're looking for something in particular.

DIGITAL ART



Digital photography is a tool of convenience, but that doesn't mean you need to compromise on quality.

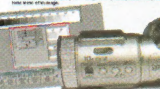
"You can make a good print from a bad exposure. But you can only make an excellent print from a good bad exposure."

"Imagine we want to take a photo of a light bulb."

...It is a lot easier to do with a digital camera.

The Equipment

The first step in digital photography is to get the equipment. This includes a camera, a computer, and a scanner. The camera should be a digital camera, not a film camera. The computer should be a PC or Mac with a minimum of 16MB RAM. The scanner should be a flatbed scanner.

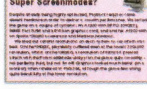


PAYBACK

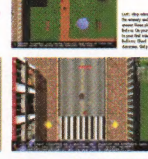
"The phones are ringing and nobody seems to be answering them..."



Payback is a top-down action game. You control a car and drive through a city, avoiding obstacles and hitting enemies. The game is set in a city with a grid system.



Super Screenmode?



Super Screenmode is a top-down action game. You control a car and drive through a city, avoiding obstacles and hitting enemies. The game is set in a city with a grid system.



It is here, however, that the close similarity to real life comes to an abrupt halt.



The game is set in a city with a grid system. You control a car and drive through the city, avoiding obstacles and hitting enemies.



ACTIVE News

Amiga Active brings you the latest news from the Amiga industry. news@amigactive.com

New Amigas in prototype

Two new Amiga computer systems have gone into prototype. Eyetech's AmigaOne1200, due for a spring launch, will be revealed in full at the St. Louis Amiga 2001 show on April 1st. Meanwhile, bPlan GMBH have announced that their standalone Pegasos computer system is also in prototype for the purposes of internal testing.

The AmigaOne A1200 is a PowerPC based motherboard with PCI and AGP slots. It is designed to piggyback on the A1200 motherboard via the trapdoor accelerator slot, although rather than acting as an accelerator, the AmigaOne board becomes the primary computer, running PowerPC code natively or 68k functions for backwards software compatibility through emulation. The A1200 motherboard gives

New hardware due to usher in the next generation of Amigas before year end.

the AmigaOne access to the classic Amiga's custom chipset for maximum compatibility.

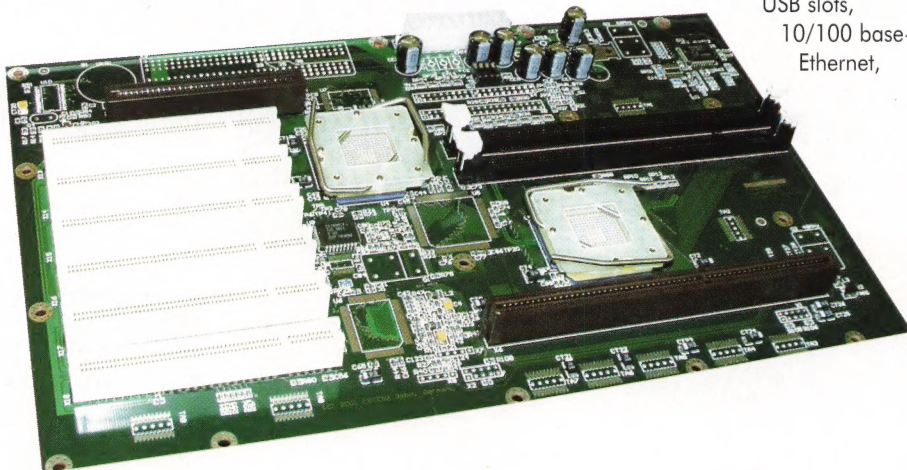
The board is designed to fit to an A1200 motherboard inside an Eyetech Z4 tower, Power Tower or other fully compatible tower case. The picture below is of the prototype motherboard - the square white sockets are where the custom VLSI logic chips will be plugged in whilst the board is being tested, and some of the peripheral I/O controllers, such as USB and UDMA IDE, are not yet filled.

The Pegasos motherboard from bPlan GMBH is an ATX form factor motherboard for the G3 and G4 PowerPC processors. It runs at a 133 MHz bus speed, has 1 AGP and 3 PCI slots, IEEE 1394 (Firewire), 4 USB slots, 10/100 base-T Ethernet,

AC97 (Dolby) sound and ATA100 IDE support. Designed to be easily configured by the retailer, it is expected that configurations will range from 350MHz G3 up to dual G4 processors at the highest clock rates.

Pegasos systems are expected to be shown to the public and available to developers in May. Initially it is planned that the Pegasos will run both LinuxPPC and MorphOS, giving users the ability to run both Linux and Amiga software on an up-to-date high spec. PPC system at a reasonable cost (prices have not been announced but are expected to start around £600). It was revealed by Amiga that their new OS would be running on the standalone bPlan system by Q3 this year, although at time of going to press, no further information on the partnership between Amiga and bPlan has been revealed.

The Pegasos is intended to be a true modern PPC computer and has no legacy hardware compatibility with classic systems. Modern software that doesn't "hit the metal", as well as Amiga PPC software should be able to run on it, but it won't offer the compatibility with hardware-hitting code that the AmigaOne A1200 hybrid promises.



Editorial



Nightlong problems fixed

ClickBOOM have had their **Amiga Active Gold Award-winning point 'n' click adventure game Nightlong remastered, to solve the problems many users have had with unreadable discs.**

The problem, which seemed to effect a small percentage of users, has been traced to a fault by the duplicators. The new batch of CDs, identified with a version tag reading 1.1 on the label, contain the latest executable for Nightlong, and now have RockRidge extensions in place to help solve problems users of certain CD filesystems had with the original.

ClickBOOM will be offering replacement discs to registered purchasers who have had problems with the original through The Portal, their on-line store and web site. They are also offering the full game at a reduced price for people who held off buying the title after hearing about the problem. The three-CD game will be sold on The Portal at \$66 Canadian (about £30), a reduction of 17.5 percent, while the PPC module drops 40 percent to \$12Can.

ClickBOOM blame the so far disappointing sales of Nightlong on the duplication problems and urge everyone who has been put off by this that they can safely make their purchase now. As we stated in our review, "...it's hard to think of any reason why Amiga Gamers shouldn't be rushing out to buy this one." This news certainly reinforces that view!



Keep on Rollin'

What an unusual month it has been. Rollercoasters aren't a patch on the ride we've had to producing this issue of *Amiga Active*.

The task of reviewing Payback fell to yours truly - much to the disgust of Neil, who accused me of skiving on more than one occasion when he rang up to ask me something about the coverdisc. Still, at least it gave him something different to ring up and hassle me about besides content for this month's CD...

I don't mind admitting that Payback had me hooked. Even now, as you read this, if I'm not in the office pulling together another issue of *Amiga Active*, I'll probably be at home clutching a Playstation joystick, either playing Tony Hawk's Pro Skater 2 - still trying in vain to score more than a million points with a string of tricks - or driving like a nutter around Los Francos city in Payback, targetting buses with a missile launcher. Oops, wasn't supposed to reveal any more of the in-game weaponry. Shoot.

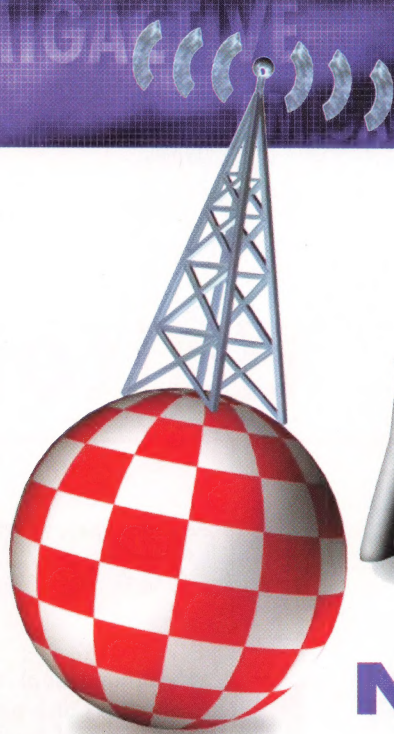
On a more serious note, some of you will soon notice (you probably already have, if you've been waiting for it) that the final part of our Linux tutorial is missing from this issue. We've taken the decision to hold the conclusion back to next issue, as we're a month behind with providing the relevant parts of the Debian Linux distribution on our coverdisc. So this month, follow last month's tutorial using this month's AACD. Then you'll be ready for the concluding part of our Masterclass along with the relevant software next issue. In the meantime, please accept our apologies if you have been having any problems with our Linux-flavoured coverdiscs. We hope to be back on track next month.

Plenty more has been happening this month - we've started a new series of Mini Masterclasses, intended to get our less technically experienced readers up to speed on a range of subjects - so if you'd like to see any particular topics covered in future installments, write in and let us know. You'll find the first installment on page 27.

Our readers who aren't on the Internet, meanwhile, should turn to page 46 for a chance to have their say in our latest survey, which our 'netted readers should have filled in on our web site by now... and whether you're on the Internet or not, you might be pleasantly surprised to see what you might win by taking part. We'll have more info on this (and you'll be able to buy one outright) next issue. A lot of you have been asking us for these things, and we like to deliver. We've even got a new back page featurette on page 64, and we eagerly await your suggestions for future installments of that, too.

Phew! What could the next issue of *Amiga Active* have in store? Well, I'm afraid I can't spill the AA20 tin of beans until the end of April. So until then, please keep writing in with your comments and suggestions for the magazine - we really do listen!

David Stroud, Editor.



Heads Up!

All three of them...

One of the strengths of the Amiga has always been its community, a three headed creature composed of the owners, the developers and the users. All play their part, and in balance, Amiga is a powerful force. Unfortunately, the owner has been absent over the last five years, providing no real vision. Without it, we have had multiple incompatible attempts to forward the platform, but without the resources or authority needed to make any of them a success.

At St. Louis, Amiga Inc. will finally reveal the path forward, and the efforts we are making to move the community along that path. It builds on what we have been doing over the last year but also demonstrates our commitment to the other two heads, the developers and the users, who have provided us with such valuable feedback. We believe that this strategy will lead to the Amiga becoming both a major player in the future of all things digital - from cell phones all the way up to servers - and a beacon to all those who value intelligence and elegance over brute force in technology.

We also understand that in taking our proper place in the community and moving it forwards, a lot of those who attempted to provide leadership will feel usurped, if not downright cheated. Amiga has done its best and will continue to do its best to work with anyone in the community who is interested in moving the whole community forward. Inevitably, there will be bitterness and resentment. But, as Bill has said in the past, if you do not read it on Amiga's web site or in official postings, then please, beware of rumours and half-truths.

It is a shame that I am writing this two weeks before St. Louis because I would really like to tell you all about what is going to be said there. Amiga Inc. will be revealing its strategy, showing products and finally (or so we hope) drawing a veil over the disappointing, if not downright depressing last five years. New products, new hardware, new software. Uncertainty finally banished. The past is dead. Long live the future.

Fleecy Moss,
Chief Technology Officer, Amiga Inc.

Morph

New Release

MorphOS beta v0.4 has been released. The PowerPC operating system, which is designed to allow the AmigaOS to run under emulation on PowerPC systems currently runs on Blizzard and Cyberstorm PPC cards for the Amiga.

MorphOS is an unofficial branch to the AmigaOS family tree; it's also a highly unorthodox one, based not on the Amiga kernel but its own microkernel, called Quark, with AmigaOS compatibility reverse engineered onto it. However, as the OS gets ported, part by part, to PPC native code, much of the future direction of MorphOS may rest on what Amiga Inc. think of the project.

The latest additions to MorphOS are support for OS3.9 and external ROM modules, another batch of resource modules in native format, improved support for the BlizzardPPC, and improved switching between PPC/68k emulation. Finally, and perhaps most importantly, it now contains a WarpOS emulation layer. This could potentially mean an end to the WarpUP vs. PowerUP "kernel war" for Amiga PowerPC solutions; although designed to run PowerUP style PPC code natively, MorphOS will now allow WarpOS code (notably most PPC Amiga games) to run alongside.

Whether this indicates a thawing in relations between the two camps or not, it's a move

Dash for Questions!

Fleecy will be working closely with Amiga Active to provide an in-depth feature on the news to be announced in St. Louis.

So, when you've heard the announcements, don't just run off to the newsgroups and start a flame war. Send your questions to us, at the usual - but slightly revised - address. You can either write to Interactive, marking your envelopes "Questions for Amiga" or put this text in the subject of an e-mail to interactive@amigactive.com.

Our postal address, just in case you forget it in the excitement, is:

Questions for Amiga
Amiga Active Magazine,
Systems House
14 Victoria Road,
Bournemouth
BH1 4RR.

mos



which will be hugely welcome to all Amiga PPC card owners.

MorphOS native third party software, meanwhile, is beginning to surface quite rapidly. Alongside some really beneficial generic utilities, such as a host of datatypes, Magic Menu and Magic User Interface (MUI) running in PPC native code for maximum performance, we are beginning to see a few applications appear, such as Cygnus Ed, the Bochs PC (x86)

emulator and drivers such as the CyberGraphX drivers for graphics cards, AHL drivers for audio and CNET drivers for Ethernet - all PPC native to take advantage of the PowerPC where it really makes a difference.

For more information on the current state of MorphOS development and a look at how well it is performing, take a look at page 22 of this issue for a review of the latest version.

www.morphos.de

Amiga's new partners ...the plot thickens

Discussion in various public forums has revealed further information about the handhelds which might be some of the first devices to run the new AmigaDE.

Amiga have been inviting developers of games or applications for the Amiga Digital Environment that meet certain specifications to contact them. They are looking for software which would be running under the AmigaDE either natively or (more likely, given the timescale) hosted under another OS such as Linux or Epoc.

There are apparently two handheld devices, one a rather powerful PDA, the other described as a mobile phone. Application size should be under 500kB for the first, and under 10kB (preferably closer to 5kB) for the second. The PDA platform is provided by a third party who are apparently keen to see the Amiga content environment appearing on their hardware. The as yet unnamed company has two models of PDA to be released shortly; one with a 320x240, 16 bit colour TFT screen, the other with a 220x176 screen which is also 16 bit.

CPU power is at a premium, so code efficiency is sought. There will apparently be some form of certification, and a web portal for selling software. Commercial quality software is what the third party company is looking for, although some freeware would no doubt be welcome. The company apparently prefers applications in VPCode but won't refuse good quality Java or C/C++ applications.

For more information about developing for these platforms, keep an eye on the Amiga Developer's network web site at www.amigadev.net or contact Amiga's Director of Developer Relations and Support, Gary Peake, on gary@amiga.com.

Talking Tao



That's Entertainment!

Last month I was telling you about the opportunities that exist for games engineers and companies to produce revenue generating, high performance games for mobile devices.

Consumers will be able to download games across the network to their phone or PDA, they'll also be able to purchase fun content on low powered media such as the small, high capacity disk from Dataplay [www.dataplay.com -Ed]. Let me give you a bit of background to explain the reasons why this opportunity now exists.

The finance ministers in a number of countries have been counting up their revenues from selling 3G licenses. Simultaneously, the carriers who had been awarded these licenses looked happy and felt victorious, but they soon became concerned as the realisation set in that maybe they weren't the winners after all. They worry now about how they are going to repay the loans to the bankers who are becoming increasingly restless. Of course, the most successful of the license holders will have plenty to smile about some time in the future, but there will be a lot of losers and consolidation in the meanwhile.

3G operators promise to be able to deliver more interesting and useful content to consumers. They're going to have to be able to achieve their goals through these promised new services because voice traffic is going to generate less and less income. As a result, they will only achieve their financial requirements by selling compelling premium content.

So the kind of services that consumers can expect to see will be based around greater levels of personalisation and entertainment services - audio, games and so forth - more akin to the kind of content that you might access on the Internet from your PC rather than from your WAP phone (assuming you're one of the tiny percentage who actually bothers to access WAP services in the first place). These are the consumer services that will be paid for by those with the greatest disposable income in this market sector.

Distributing the services is one thing, building handsets that can run the downloaded content is another. Most of the work to date by the handset manufacturers has been on designing and manufacturing client devices that have insufficient real estate to deliver anything truly interesting to the youth generation. We're changing that.

Francis Charig,
Chairman of Tao Group.



alt.WoA

show report

The North of England's first Amiga show took place in Yorkshire in late February. We were there.



The Huddersfield Amiga User Group (HAUG) held their first show on February 24th. alt.WoA was the first UK Amiga show to be held outside the south-east of England. Visitors came from all over the UK, from as far away as north Scotland and Devon, with a significant contingent from the London area.

This was HAUG's first attempt at organising a show and it was an unqualified success, with more than twice as many visitors as they had hoped for. The venue, the night club below The Old Corn Mill pub, was packed with people clutching boxes of Amiga goodies.



The show was busy right through the afternoon, due in part to the presentation on the AmigaOne to be given at the end of the day by Amiga's Chief Technology Officer, Fleecy Moss and Managing Director of Eyeteck, Alan Redhouse.

Some had hoped that Eyeteck would have a prototype AmigaOne board to show. They didn't, but they did have pictures and schematics on display. The main showing, and associated announcements, were being saved for the American St. Louis show at the end of March.

The presentation at the end of the show, following the raffle, was similar to the AmigaOne presentation given at the Cologne show. While progress has been made with the AmigaOne, Eyeteck and Fleecy Moss were unable to give much more detail prior to the main announcement at St Louis.

Don't go home empty handed

Exhibitors and visitors alike went away from the show smiling. Dealers were doing a brisk trade: Eyeteck, the show's sponsors, were three deep in customers all afternoon.

Kicksoft, the recently formed shareware sales offshoot of the Kickstart user group, were doing a brisk trade in GoldED and MooVID. Forematt Home computing had the first issue of "100% Amiga", an interesting looking magazine on a CD.

There were plenty of other exhibitors, including Weird Science, Classic Amiga, Wirenet, AmiBench, several user groups and, of course, Amiga Active.

The show wasn't only about buying and selling Amiga gear though. As much as anything else, it was an opportunity for Amiga users to get together and put faces to names that previously only had an e-mail address attached to them. Games enthusiasts also had the chance to show their skills in the Heretic II and Sensible Soccer tournaments.

As Fleecy Moss said: "I don't think I have been to a show in over five years that had as many people there. All swapping stories, eagerly asking for news, seeing demos and, most importantly, buying everything and anything there that could be used to enhance their Amigas."

www.alt-woa.org

AmiGroups!

User groups were well represented at the show, so it was the obvious choice for the inaugural meeting of AmiGroups.

AmiGroups was set up at the start of this year as an association of Amiga user groups. Over a dozen groups were represented, as far apart as Southampton and Edinburgh.

After the initial introductions, the main focus of the meeting was on promotion. Methods of encouraging Amiga users to attend user groups were discussed. The other main area of concern was the organisation of shows - in particular, the question of whether user groups

should have a number of individual small shows, like alt.WoA, Kickstart and Seal-o-Rama, or whether they should pool their resources to create a single national show. Amiga' CTO Fleecy Moss addressed the meeting and spoke about Amiga's views on Amiga shows.

This meeting was only a starting point, but it demonstrated the commitment among organisers and members of user groups to continue the Amiga community spirit.

News In Brief

Kosh has a Kouncil

Kosh, one of the more ambitious projects to produce a next generation Operating System that has sprung from the Amiga community, has announced the creation of a council to oversee research and development.

The council consists of four members, representing developers (John Chandler), companies (greenboy of the Phoenix Consortium), and users (two speakers, Gregg Webb and Marcus Petersson).

<http://kosh.convergence.org>

PIOS Released

Dave Haynie has released the specifications for his designs of the PIOS One and the PIOS PowerPC CPU Module to Amiga Inc. for open access. The files are available in PDF format in the documentation section of the Amiga Support Network web site.

www.amigadev.net

More From Legacy

Legacy Maker Inc. have announced two new products. Catalyzer 3 is the latest volume of their tutorial series for Nova Design's ImageFX, and is available in NTSC video format - a PAL version is awaiting a distributor.

PanCanvas 2.0 is a plug-in for ImageFX that creates smooth animation sequences by panning a virtual camera over a large image. This version improves upon the original release - used in the Warner Brother's cartoon 'Pinky and the Brain' as well as other places - in many ways, including speed enhancements, previews, and support for more formats.

www.legacymakerinc.com

Tiny DeCSS

Keith Winstein and Marc Horowitz have made headlines in the computing press by releasing a couple of small Perl scripts that decrypt the CSS encryption used on DVDs.

The shorter version of the script is just 472 bytes in size, whilst the longer version trades an increase to 531 bytes for a significant speed improvement. However, both are beaten by Charles Hannum, whose full-speed routine, written in C, is just 442 bytes long. Readers be warned - using any of these programs to decode a DVD movie you have bought legally is, bizarrely, against US law.

KickSoft Engineering

The highly rated shareware graphic manipulation package Image Engineer is available once more from Kicksoft. The new online retailer, spun off from the Kickstart User Group, adds Image Engineer to a growing list of excellent products which also includes DrawStudio, Spitfire and GoldED. ImageEngineer is available from their web site for \$35 (about £24).

www.kicksoft.co.uk

Showtime... again!

The Kickstart User Group have announced Kickstart 4, the second UK Amiga show of the year, to be held on the 26th of May 2001, from 12-5pm at the Banstead Youth Club in Surrey. Eyetech, Kicksoft, Forematt Home Computing, Blittersoft and Amiga Active have already agreed to attend, with several other companies expected to join soon. See the web site or check the next issue of Amiga Active for more info.

www.kickstart-amiga.co.uk

GTI and Schatztruhe to merge

Leading German Amiga software distributor GTI (Grenville Trading International) GMBH and Stefan Ossowski's Schatztruhe have announced that they will be merging their operations.

The two companies, for a long time in very close co-operation, will effectively become one, as Schatztruhe becomes a business division of GTI and relocate to GTI's headquarters at Waldshut-Tiengen.

In a joint press release, Stefan Ossowski and Richard Small of GTI emphasised that this change would have minimal impact on their customers, either public or trade, and that Schatztruhe's operation will continue at an "undiminished scale."

Web on the Way to Wembley!

They say you can find anything on the web. It seems they're right.

Laurie Sanchez, manager of Wycombe Wanderers football club in the English 2nd division, was so desperate for an uninjured striker to play in their FA Cup quarter final match against Premier Division team Leicester City, that he advertised for one on the club's homepage.

Amongst those answering this plea was Dublin born Ghanaian footballer Roy Essandoh who used to play professionally in Finland. He was taken up on a short-term contract, came on as a substitute in the match and scored the dramatic extra-time goal that put Wycombe into the semi-finals - the furthest the club has ever been in the competition.

Product Watch

The best things come to those who wait - but tell that to an Amiga user these days, and you'll probably get a smack round the chops for winding them up.

Here at Amiga Active, however, we can sympathise with the inevitable drag factor of waiting for Amiga products to be released. Just take a look at page 25 of this very issue and you'll see how impatient we are, for example.

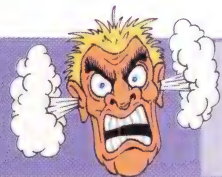
Imminent:

- **Amiga 2001** - St. Louis, March 30 - April 1, 2001. Although you probably guessed the year yourselves.
- **Earth2140** - Next issue, we hope. Honest.
- **iFusion** - If, like us, you can't wait, turn to page 25.
- **G-Rex** - Available just before this issue went to press, in Germany...
- **Mediator A1200 Z4** - We've not heard much from Elbox for a while. We hope they're working hard on it.
- **Mediator PCI 4000** - See above paragraph.
- **SharkPPC G3/G4** - See above paragraph ;-)
- **AmigaOne PPC** - Page 6 of this issue!
- **Shogo: MAD** - We are now, officially, MAD for it. The game, that is!
- **Land of Genesis** - We hope for a review next issue.
- **BoXeR** - It's been in the "2Q 2001" section of Product Watch until now, but as we're now in the second quarter of 2001, the BoXeR should, logically speaking, be imminent. That's how we worked it out, anyway.

3Q 2001:

- **Pianeta Amiga 2000** - Florence, Sep 30 - Oct 1.
- **Standalone AmigaOne** - Confident? Final answer?

Know something we don't? Tell us! news@amigactive.com



Rants and Raves

Lights! Camera! Action?

The Amiga once held the crown for video and animation, but can it regain it, and do we REALLY care?

For a machine that at one time was THE choice for graphics and video work, these days the Amiga is certainly missing some of the details necessary to bring an animation project to full fruition. Say I want to nip off and create a full animation on my machine right now. What would I need?

Well, we're fairly well serviced with packages for 3D animation - though most of them have ceased development, you can still find copies of Imagine and its ilk, so no problems so far. After that, you'll want to do some special effects. I'm sure you'll all shout ImageFX at me now, and you'd be right, up to a point.

Edit no-go

Finally, you'll want to edit the animation's separate scenes into its finished whole, testing out different ordering, cuts and wipes, and adding sound to your masterpiece, before outputting it to video or some sort of video file format for distribution. Sadly, it is this area in which the Amiga does not so much stumble as fall, break a leg, and have to be shot.

Even the simplest of these editing tasks can be a real pain on the Amiga. Tornado 3D will spew out a sequence of still frames perfectly rendered for transfer to video, but

sadly it's not really possible to output these frames to video using an Amiga. You could convert these frames into video formats such as MPEG or perhaps something simple to implement Quicktime and AVI codecs, but there's no easy to use software to throw separate scenes together on a timeline and edit them in the way you could with Premiere or any number of cheaper alternatives on Windows or Mac.

“..you want to edit your scenes and move the sound effects around too? Tough.”

Sound is consistently overlooked as well. Inevitably, finishing even a single scene involves processing through a number of utilities to put the whole thing together. Render, convert to MPEG, then convert sound to MPEG and combine. Oh, you want to edit your scenes and move the sound effects around too? Tough.

On the other hand, modern Mac users can plug their digital camcorder into their machine, capture the video and mess with it without having to buy any additional hardware or software. It will soon be possible to create your own DVD video discs on these machines!

The Amiga lacks any of this, though it used to be very well served by video gadgetry. Bye bye frame-grabber! Bye bye non-linear editing! Amiga

users shouldn't need to hunt down ancient software and hardware.

What do we WANT?

At the same time, there does also seem to be a lack of buyers for this software when it does arrive. Many graphics packages sell surprisingly poorly for a platform which is supposedly so heavily used by artists and animators. Somewhere along the line, we've turned from doers to dreamers, and while this has allowed us to think outside the box of normal computer evolution, we mustn't forget to actually use the hardware and software at some point.

We've got very tied up in the way the new Amiga will work, but once we've got it on our desk, what is it we want to do with it? Do we still want it for video at all? Perhaps we've forgotten that we need to run applications, and not just an OS.

In order for our platform to reach full potential, developers shouldn't forget the little details like timeline editing software in the face of big, impressive renders from RealSoft 3D or new effects in ImageFX. It undermines us if we have to use software on other platforms to add the finishing touches.

Hopefully this will be remedied to some degree by the arrival of Taifun and Realsoft 3D, but all of this is for nought if we don't prize open our purse strings. Software like this costs money, but it seems that we aren't prepared to pay anymore - which is interesting, given the horrendous amounts of cash we're prepared to pay for hardware.

Philip Corner 

interact !
Agree? Disagree?

If what you've read on these pages has made you think, we'd like to hear your views. Please. Write to us or e-mail the usual address...

interactive@amigaactive.com



Rants and Raves



Every Little Thing...

Why are we still using Amigas if PCs have surpassed them at all the big things? Because we appreciate the little things.

I imagine, if you will (and if you won't you might as well skip this first paragraph) a computer game - probably written by a German software company (they like this sort of thing) in which you could manage Commodore during the Amiga years. Call it "Amiga Manager." In this simulation you could choose to keep out of the PC market, adopt PCI instead of Zorro III and find the extra cash to develop the AAA chipset and Hombre. Get your game plan right and by the year 2001 the world and his dog will be using Amigas, whilst Bill Gates will be serving in a Seattle burger chain.

It didn't happen. Whoever was playing this game was a grade 'A' management game dunce (I prefer the term "muppet" myself - Ed). They couldn't get on the high score table, even though it started at zero. They lost a fortune on the PC. They wasted time with the A600. They scrapped the best R&D, they screwed up the CD32. Game Over by 1994. The Amiga has since struggled to survive while the PC has been swamped with research funding aimed at overcoming its inadequacies. Bill Gates earns more from the PC market than he knows what to do with. Buying burger chains is a distinct possibility.

look terribly stable next to Windows' memory protection. We can't enjoy many of the latest multimedia formats. We aren't the best at games any more, we can no longer boast the best graphics, we can't use all the printers and scanners that are available and even the Macintosh is finally getting multi-tasking. Sickening, isn't it? So why do we stick with our Amigas?

Speak to a casual computer user migrating from Amiga to PC. The questions they ask have nothing to do with codecs, or memory protection, or the availability of software. Instead, it's the little things. It's "why does the start menu sometimes disappear when I'm trying to select something?", "why does the cursor move when I'm in the middle of typing?", "why do I have to do the shut down thing instead of just switching it off?", or "why doesn't it ask for the proper floppy disk?"

We can give answers in technical terms. We can try to explain to Joe Public that the input focus has been locked to a new event. We can try to explain the implications of memory paging. But none of these are the right answer. The right answer is "Because these are things that Windows does badly. You're used to a computer that does them well."

often format PC disks in my Amiga - despite the half speed drive - just to save time. Even a low powered Amiga can successfully move a window without freezing the application that's running in that window (even a video clip - try that on a PC).

My Amiga never gets so clogged up that I have to reboot it for any task to happen at a decent speed. I can even switch the thing off by hammering the power switch, safe in the knowledge that I won't get a rude message about it when I next boot the system. I can



Above: Clever ol' Workbench.

"Windows, as a user experience, is appalling in many small respects compared to the Amiga."

A bit rusty

Once upon a time, the Amiga could wear its custom chipset proudly. The direct descendants of those chipsets, produced by Nvidia, ATI or Creative Labs, sit on PCI cards in millions of cheap personal computers. Gigahertz processors provide the speed of an Amiga render farm for a tiny fraction the cost. Our much-patched operating systems no longer

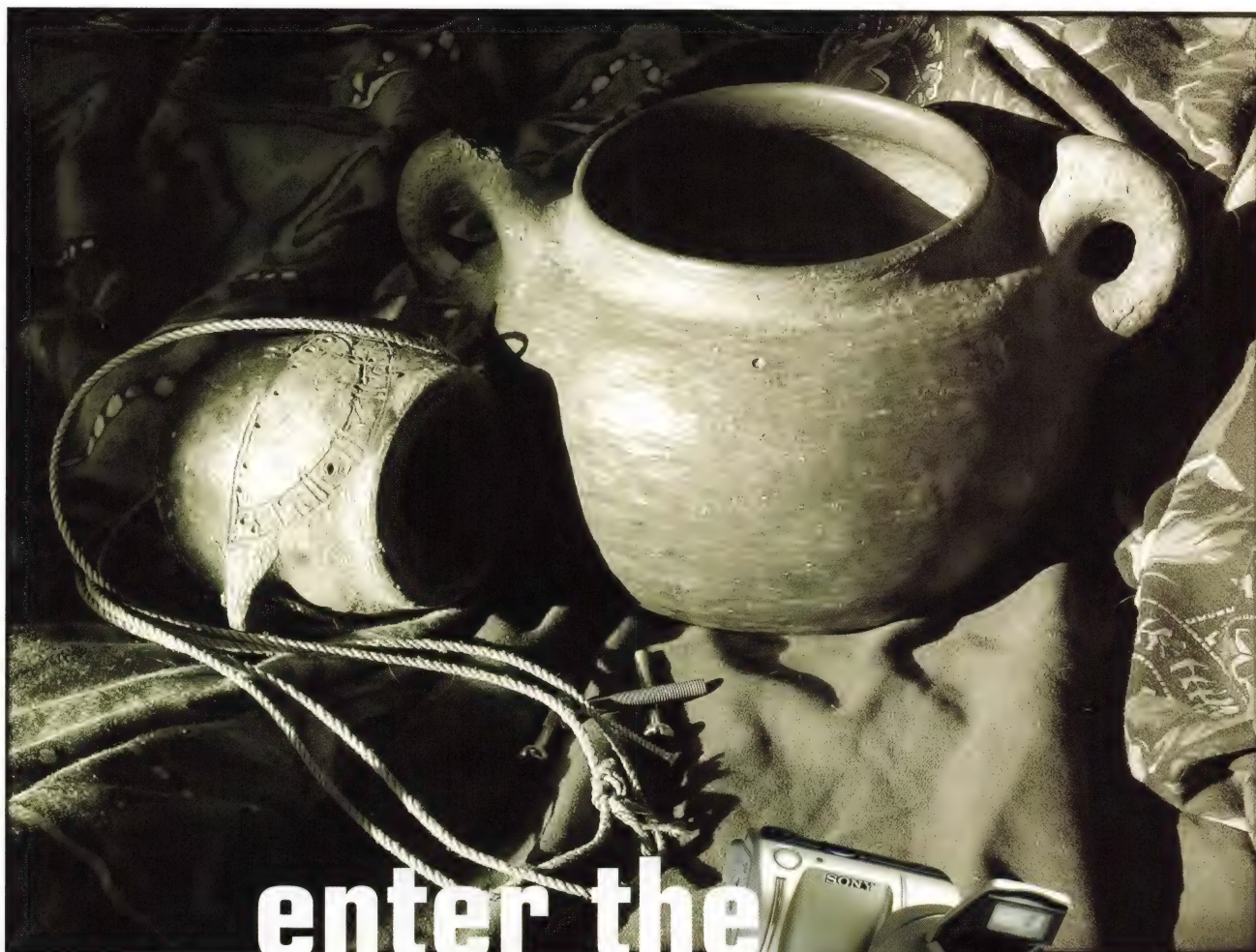
The little things

Windows, as a user experience, is appalling in many small respects compared to the Amiga. However many things I do on my Amiga I never have to reselect a menu three times because it keeps getting interrupted by another task - something I've had to do on my PC on countless occasions. The PC's handling of floppy disks is so awkward that I

click on a picture icon without having to write the correct suffix on the end of it, and I can navigate easily through a directory tree which makes it clear where everything is.

There are countless other things that Windows does wrong. Microsoft, Intel et. al. have spent a huge amount of time and effort fixing the big things that are wrong with the WIntel platform - things that the Amiga used to do better. They have yet to fix many of the little things. The reason we still use our Amigas is not (usually) because they are so much better at any given application; rather, they are sufficient for that application and can perform it with a whole lot more grace, user friendliness and common sense than the WIntel world seems capable of imagining.

Andrew Korn **A**



enter the digital zone

Digital photography is a tool of convenience, but that doesn't mean you need to compromise on quality.

Digital photography currently exists in a kind of twilight zone. Used where convenience, flexibility, portability or rapidity is a more important factor than image quality, digital photography on the whole suffers from its own successes. Quality is not the thing you look for in digital, and as a result there is often too little attention paid to the image quality of digital photographs. By looking at the careful methods employed by some traditional photographers, we can find ways for people working with digital photography, be they a serious photographer or a casual snapper, to ensure that the quality of their digital work doesn't suffer from this complacency.

**“you can make a good print from a bad exposure,
but you can only make an excellent print from a good bad exposure.”**

“Imagine we want to take a close up photograph of a light bulb...”

While the ease of post-processing may make it seem like it's not important to worry about getting the photograph perfect in the camera with digital photography, you can in fact say the same about traditional silver halide-based photographic print films. Modern films actually record a greater separation of tone from dark to light than photographic papers can. As a result, much of the latitude of a film is unused, and thus it is possible to play around with the contrast, brightness and so on at the print stage, either for effect or to correct a bad exposure. However, this forgivingness of traditional films doesn't mean that a good photographer would take a quick snap and expect to get a great print from it. The simple truth is that you can make a good print from a bad exposure, but you can only make an excellent print from a good bad exposure.

gets darker the more light falls on it, but as the final print inverts the tones of the negative, the final result is the same.

Imagine we want to take a close up photograph of a light bulb. Because the bulb is very bright, a lot of light is coming from it, and it will tend to flood the sensitive area. If we want to get detail in the photograph, we must see not a large area of white, but a range of tones that convey texture and colour. The way to do this is to reduce the amount of light allowed to fall on the sensitive area by a sufficient degree to stop it going white, but let enough through to stop it failing to register an image, which would leave the entire thing black.



Into the Zone

One of the most popular methods for optimising the quality of a black and white negative (and, to a lesser extent, colour print or slide film) is the Zone system, made popular by Ansel Adams and Minor White,

“...it is a lot easier to do with a digital camera.”

amongst others. It's a process which is quite simple when you understand it, but has a reputation for being hard to learn. To do it properly requires a huge amount of complex and costly preparation. Most practitioners of the Zone system in fact employ a simplified version of it to improve control of their image making.

While the Zone system is all about the optical density of film, the principles are in fact applicable to digital photography; what's more it is a lot easier to do with a digital camera. The digital process offers a wider dynamic range than traditional colour films, allowing the Zone system to be applied more effectively to colour work as well as black and white.

Before we continue, we're going to cover some of the basics of the photographic process which are often glossed over because of the nature of modern automated cameras, but which are important to understand if you want to get better results from digital photography.

The image is formed on the film of a traditional camera or on the CCD (Charge Coupled Device) of a digital camera gets there in very much the same way: light is focused by a lens onto the sensitive element for a limited amount of time. The more light that falls on any given part of the sensitive element, the whiter the final print will be in that area, and vice versa. In the case of negative films, the film actually

The Equipment

Not every digital camera offers sufficient quality or sufficient features to employ the techniques described in this article. Most important of all, you need a way of controlling the exposure of your camera; if it is completely automatic, you're stuck. The ideal is to have a complete manual override so that you can set your own values. Even very cheap digital cameras will allow you to add or subtract a little from the exposure, usually a maximum of ± 2 stops, which is helpful but too limiting to try out the more advanced techniques described in this article.

However, there is a way to cheat slightly if you have a camera which locks exposure when you hold down the shutter button, as many do. Such cameras can be fooled into exposing the way you want; just determine the setting you want and find a darker or lighter thing to point your camera at until it registers the correct value, then lock the exposure and take your photo. Be aware, however, that many cameras will lock both focus and exposure, so if you lock your reading on a subject closer or further away than the subject you want to take a photo of, the final result will be out of focus.

The other significant considerations are lens quality and CCD quality. If you want to get really good results, you will need a camera with a decent lens. The photographs that accompany this article are taken with Sony's DCS F505v as reviewed last month; the optical quality of the lens (designed by lens manufacturing legends Zeiss) is excellent, but there are other digital cameras with good lenses, notably those from Olympus and Nikon.

Finally, you will need some image processing software. FXPaint, Photogenics, Art Effect and ImageFX are all good for this sort of work. Art Effect and FXPaint are probably the two most straightforward, while ImageFX allows the most control over tone and colour manipulation, and Photogenics is probably the best at processing local areas of an image.



▶ Exposing for tone

The amount of light allowed through is called the exposure, and is basically a product of three factors; subject illumination, lens aperture and shutter time. The first of these simply indicates the amount of light that bounces off the target and enters the camera lens - i.e. how well lit it is. The second determines how much of the light that falls on a lens actually passes through it, and is measured by the lens' f-stop rating, and the third is the amount of time the shutter stays open for. A fully automatic camera will measure the amount of light on the subject, and determine what it thinks is an appropriate exposure. It will then select a combination of lens aperture and shutter speed that will provide this amount of light.

The point illustrated by the example on the next page is that the camera gives a reading for both subjects without knowing what the subjects are - assuming both contained a wide mix of tones and could be averaged out as a middle grey - which they couldn't. The grey box on the page can be averaged out as a middle grey because that is exactly what it is. Thus by metering the

grey, you are determining the correct exposure required to make something middle grey appear as middle grey. The

“...the grey card method.”

exposure that will make light objects appear light and dark objects appear dark is exactly the same as the exposure that is required to make middle grey objects appear middle grey.

This method of determining exposure is known as the grey card method, and is universally applicable - try it. Take a variety of subjects with your camera, using the grey area of the page to meter from (remembering that it must be lit the same as the subject, so watch out if you have uneven lighting). You'll find that whether your subject is light or dark, and whatever colour it is, this will

provide an accurate exposure.

However, an automatic camera isn't going to be able to produce the correct exposure simply because there is no such thing as a correct exposure. Figure 1 shows a “correct” exposure, but the extreme brightness means that parts of the image lose detail.

Figure 2 shows the same scene nominally “underexposed” - however it shows more detail and is a much more interesting image. You might want to portray a scene darker or lighter than it actually appears simply to alter the mood. Exposure isn't simply a matter of correct exposure, it is also an essential part of the creative decision making process.

“...there is no such thing as a correct exposure.”

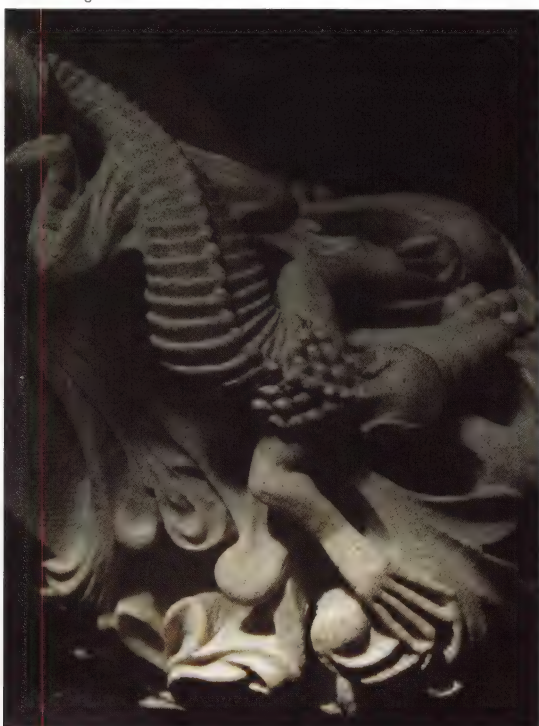
Understanding zones

Each time you double the amount of time the shutter is open for (e.g. going from 1/250th of a second to 1/125th of a second) or double the aperture (e.g. from f8 to f5.6), you are doubling the amount of light allowed onto the sensitive medium. Thus any given object will appear brighter. If you keep increasing the amount of light let through, eventually that object will become entirely white. Conversely, if you decrease the amount of light coming through, it will eventually become entirely black.



Above: Figure 1

Below: Figure 2



Understanding the exact relation between tones and exposure allows us far greater control over the images we create. The steps of doubling / halving the exposure are known as stops; whether you open up the lens one step or have the shutter stay open one step longer (i.e. twice as long), you have increased the exposure by one stop. If you do both, then you are letting four times (2x2) the amount of light fall onto the sensitive area of the camera, in other words, +2 stops.

In the original Zone system, middle grey is termed Zone V (5). Each zone above or below Zone V represents an increase or decrease of one stop. Thus Zone VI (6) is exactly twice as bright as Zone V, and Zone IV (4) is half as bright. In theory, at the point you reach Zone 0 you have total blackness, and at Zone X (10) you have pure white. Zone X is 5 stops brighter than Zone V - going from 1/1000th of a second to 1/30th, for example - or 32 times as bright in absolute terms.

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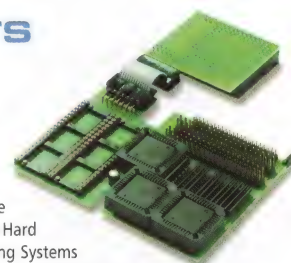
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Step by Step

1 Set up a still life consisting of light coloured objects, preferably mostly white, placed on a white surface.

2 With your digital camera in automatic exposure mode, take a photograph of this subject and download it onto your computer (fig. 3). You will notice that the photograph looks wrong; everything appears to be mid-tones instead of whites



Above: Figure 3 Below: Figure 4



3 Set up a similar subject to photograph, but this time use dark objects on a dark surface.

4 Repeat step 2 with this new subject and download into the computer. (fig. 4). You will notice that this image is also full of mid-tones; here they replace the blacks instead of the whites.

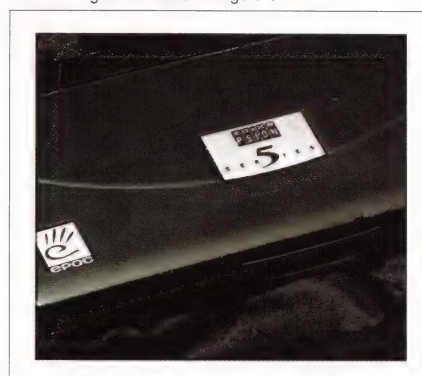
5 Cut out the large grey box at the bottom of the page and place it next to the still lifes, and (taking care not to cast a shadow on the grey area) measure the exposure there. Now, either using your camera's exposure lock, setting the

exposure manually, or using exposure adjustment (see your camera's manual if you're unsure how to do this), take photographs of both your still lifes, using the reading you got from the grey tone (printed below).

If you've done everything correctly, both images will now look the way they should (fig. 5 and 6).



Above: Figure 5 Below: Figure 6



Above: A grey box, yesterday.

The Zone system is a way of keeping track of the range of tones in an image. For example, Caucasian skin tones are normally placed on Zone VI. If you take your light reading directly from a skin tone, the skin will appear on Zone V instead, one shade down in our tone chart. As you approach Zone 0 or Zone X, the range of tones within each zone decreases, and thus less detail can be held. Thus if you want something to appear light but not washed out, you might expose to put it in Zone VII or VIII, where there is still some (but not a lot of) detail.

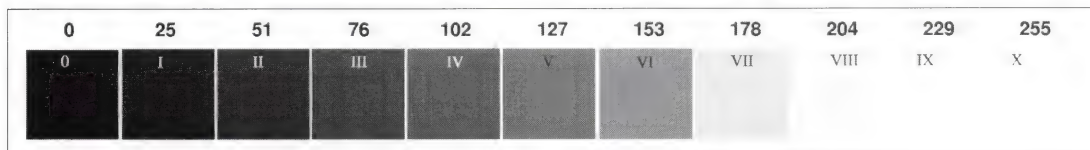
Of course the real world is not quite so clean cut; it will probably take less than 32 times the exposure necessary to make a middle grey before you get pure white. Likewise you're likely to get black before you go 32 times darker. The best black and white films can achieve a true zone 0-X range, although colour films provide much less sensitivity, typically five or six stops.

represent a perfectly linear response, whilst all cameras show a response which flattens towards highlights and shadows, known as an "S-Curve". This means that we need to discover the exact zone response of our system. Digital makes it a lot easier in many ways.

We don't need to worry about complex chemical processes or measuring optical densities to calibrate our digital cameras for the Zone system. Instead the only thing you need is a sheet of white paper and the following five simple steps.

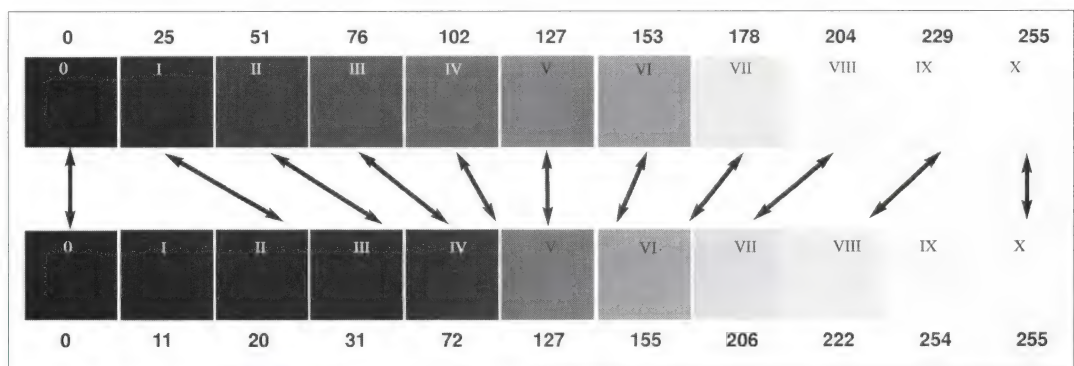


1 First, tape the sheet of paper to a wall and make sure it's getting plenty of very even lighting. Take a photo of it so that it entirely fills the image area - the paper will of course appear to be mid-grey rather than white - but don't worry about that for now.



Above: Figure 7

"Shadows tend to be a weakness for digital cameras."



Above: Figure 8

Digital cameras are much more predictable in this respect, because their range is easily determinable. Remember that our images are 24 bit graphics; each pixel is made up of a byte value of 0-255 in red, green and blue. Thus while we have 16.7m colours, we have only 256 tones. Our middle tones, which the meter attempts to average for, have a tone value of 127, half way through the 0-255 range, while 0 represents total black and 255 represents total white. In figure 7 you can see the Zone range with actual byte values spread evenly across the 8-bit spectrum.

Calibrating your zones

One problem with the Zone system is the complexity of doing it right. Each film will produce a slightly different tonal level for any given exposure, so that one may 'white out' or lose detail in the shadows before another. Digital cameras are the same. Figure 8 shows a measured zone chart for the Sony DSC-F505v digital camera compared to a linear zone chart. The Sony, as you can see, approximates the linear response in the middle tones but loses detail more quickly in the shadow regions. Shadows tend to be a weakness for digital cameras.

The smooth greys of the theoretical chart on this page



2 Next, take five more photos of the piece of paper, each time increasing the exposure by one stop. Then do another five exposures, each time decreasing the exposure from normal by one stop.

You will now have eleven exposures, representing exposure values of -5 to +5, with 0 representing the mid-tone, or zone V. This is the scale from zone 0 to zone X.



3 Load the images one by one into a 24 bit graphics package. The first thing you should note is whether or not you see the texture of the sheet of paper for each zone - take note of this for later reference. You will also need to determine the pixel value of each image.

This is simplified if you average out the colours by setting the image as a grey scale - doing it for each colour might be a good experiment for the more adventurous and perfectionist amongst you.

You'll also find that you get a range of values because of the texture of the image. To correct for this, reduce the image down in size to blur the detail together and get an average reading.



4 Create a zone chart for your camera by putting each image into a row from dark to light. Probably the easiest way of doing this is with DrawStudio - just draw 11 squares next to each one, and apply your photos of the white paper to each square as a texture (see fig. 9). Note the pixel value for each zone.

“Probably the easiest way of doing this is with DrawStudio...”

This chart will tell you how any given scene will be represented in terms of tonal range by your camera. By measuring the exposure value of any area of the subject you can figure out what zone that area will appear in, and ensure that the parts of the image that are important to you remain in the zones where your camera records significant texture. Thus if you find your camera loses the texture of the paper at Zone III, you know that any shadowy area you want to be clearly seen can be no more than 2 stops darker than your exposure.

A brief word of warning. Zone V should have a pixel value of 127 (mid way through the 1 byte tonal range of 0-255). Some meters are set to expose for Zone VI (byte=153) under the assumption that it will be used to meter Caucasian skin tones a lot.

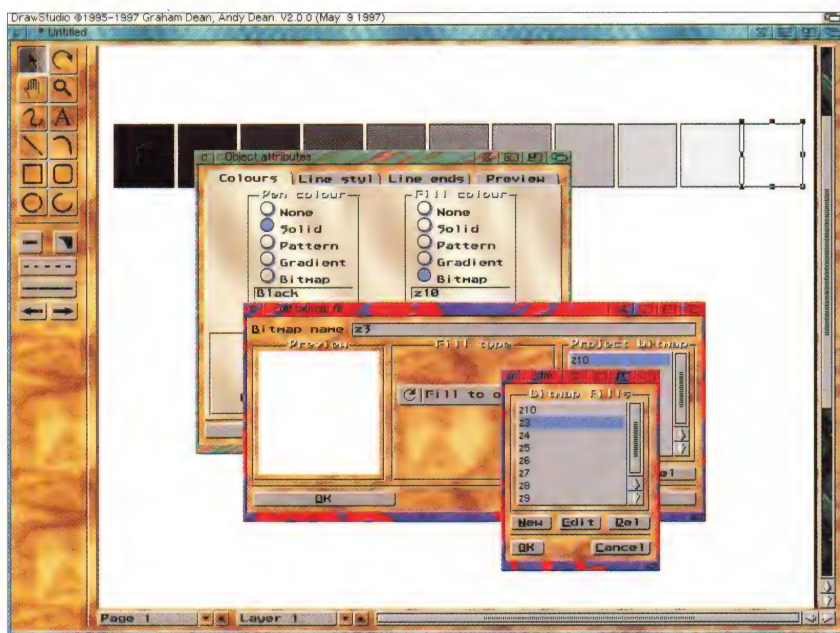
With a traditional film, we could alter the development time to increase or decrease the contrast range in the negative. But if we change the development time, our carefully chosen mid-grey region will become a lighter or darker grey. Thus the Zone system photographer would expose the area they wanted to appear as a mid tone a little less than would normally be required, to compensate for additional development.

Doing it digitally is much easier because we can alter the image in software. Normally we can alter the brightness (or value), contrast and gamma of an image by simply moving a slider. These sliders usually show the byte value range of -127 to +127. If we understand what these sliders do, we can exactly predict the effect altering them will have on any given image.

In figure 10 you can see how the grey scale is affected. If we add 1 stop brightness (+25 brightness according to the theoretical zone scale, although it will vary for you - check the byte values recorded in your zone calibration chart to find out how much you have to add or take away to move Zone V by one zone), each Zone moves one Zone brighter. However, you will notice that this means the black is also a zone lighter, so we have lost the contrast scale. If we reduce brightness we drop everything by a zone, but retain the black - but by doing this, the white has now been reduced to a light grey and we've lost our highlights.

Changing the contrast can compensate for this. Increasing contrast will lower the number of zones in the final image without getting rid of black or white. Thus if we increase contrast by 1 stop (+25 contrast), we lose one stop off the top of our chart - Zone IX becomes white, Zone 0 stays black, and zones I to VIII are spread between them.

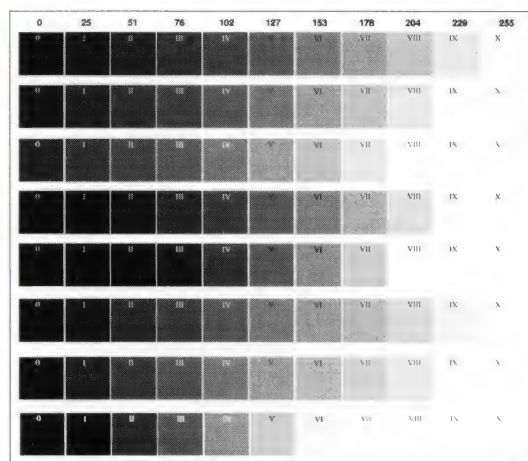
Gamma allows us to tune the rate of change of the tonal scale. Altering Gamma will retain the value of the middle tones, but brings darker and lighter tones closer to the middle tone - biasing the tonal range for middle values. Thus if a brightness or contrast modification will push too much detail (or too little of the image) into highlight or shadow, you can move it back with Gamma.



Above: Figure 9

Sliding scales

So what happens if the subject matter has more or less than ten zones (or stops) between the darkest and lightest tone? To make it map to our zones, we would have to expand or contract the zonal range. Where the range was greater, we would contract it, moving some of the highlights or shadows (or, to an extent, both) within the middle range of zones. When it is lesser, we would extend the range so that the darker greys of the scene become darker and the lighter greys become lighter.



Above: Figure 10. Row 1 is normal. Row 2, +1 stop brightness. Row 3, +2 stops brightness. Row 4, +1 stop contrast. Row 5, +2 stops contrast. Row 6, +1 stop gamma. Row 7, +2 stops gamma. Row 8, +2 stops contrast, +2 stops gamma.



Above: Figure 11

In practice

Take a look back at figures 3 and 5 - here's how to solve this problem the Zone System way. Using our Zone chart, we want the tube of paint to appear around Zone VIII. We could read for the tube and take three stops from the exposure to get this - we'd get an answer very similar to the grey card method. This scene, however, has little contrast, and this would mean all the detail crammed into the upper zones, and therefore not very well separated.

To solve this, we will contract the zonal range by roughly three zones, so that the image contains more dark and light. This means that Zone V will appear 3 zones lighter - so we expose the tube as Zone V after all. Now we modify the image by adding 75 to the brightness and contrast. You can see this in Figure 11 along with a zone chart modified the same way. By trying out your exposure tweaks on a zone chart you can figure out the best settings for the zonal manipulation you want to achieve.

Figure 12 shows this technique side by side with the version from figure 5. The tone of the paint tube is very similar, but this method has produced a significant improvement in tonal contrast, giving the image more texture and more solidity.

“...simply too scary even for many professional photographers to dare...”

Final warning

Guess what? There's another really important factor at work here - output medium. It's all very well calibrating your images for the 256 levels of tone they contain, but often they won't all be visible - when you print them you'll be lucky to get 70 discernible shades. The solution is to include the output process in the calibration stage. Print out the 11 photos of the piece of paper you took, cut a square from each and paste them (with glue this

time!) into a zone chart. You'll find that this chart will have significantly less tonal range than your camera chart.

Knowing how your printer will contract the zones, you can consider just how the scene you have in your viewfinder is going to appear when it gets printed out. If you take this extra stage into account when choosing the correct exposure and image processing settings, you can optimise your photographs to ensure that they contain the best possible range of detail when you print them.

The ease of digital photography has tended to encourage photographers to put less effort into their work. We hope this article has demonstrated that this ease of use opens up new avenues to those of us seeking good image quality too. Zone system is a process that is

often considered simply too scary even for many professional photographers to dare - but with a digital camera it's really quite simple.

Andrew Korn **A**

Below: Figure 12



The Lead Picture

The picture at the start of this article was taken on the Sony DSC-F505v camera reviewed last month using the principles described in this article and “developed” in Nova Designs’ art package, ImageFX.

- 1** This is the basic exposure from a grey card. It's about what we need, but we need to make the ceramic tones a little darker.
- 2** Here the I put the mouth of the small pot at Zone V. This makes the large pot far too light, but it means I get the shadow detail I want, and I can correct the tonal range later.
- 3** ImageFX's custom colour transformation option allows you to tune the relative response across the tonal range - effectively tweaking the S-curve of the camera's response directly. This is a more direct but less measurable method than varying brightness, contrast and gamma.

Here, we used it to enhance certain tones - this curve pulls the tone of the large pot down a couple of stops and the darkest region of detail up a stop.

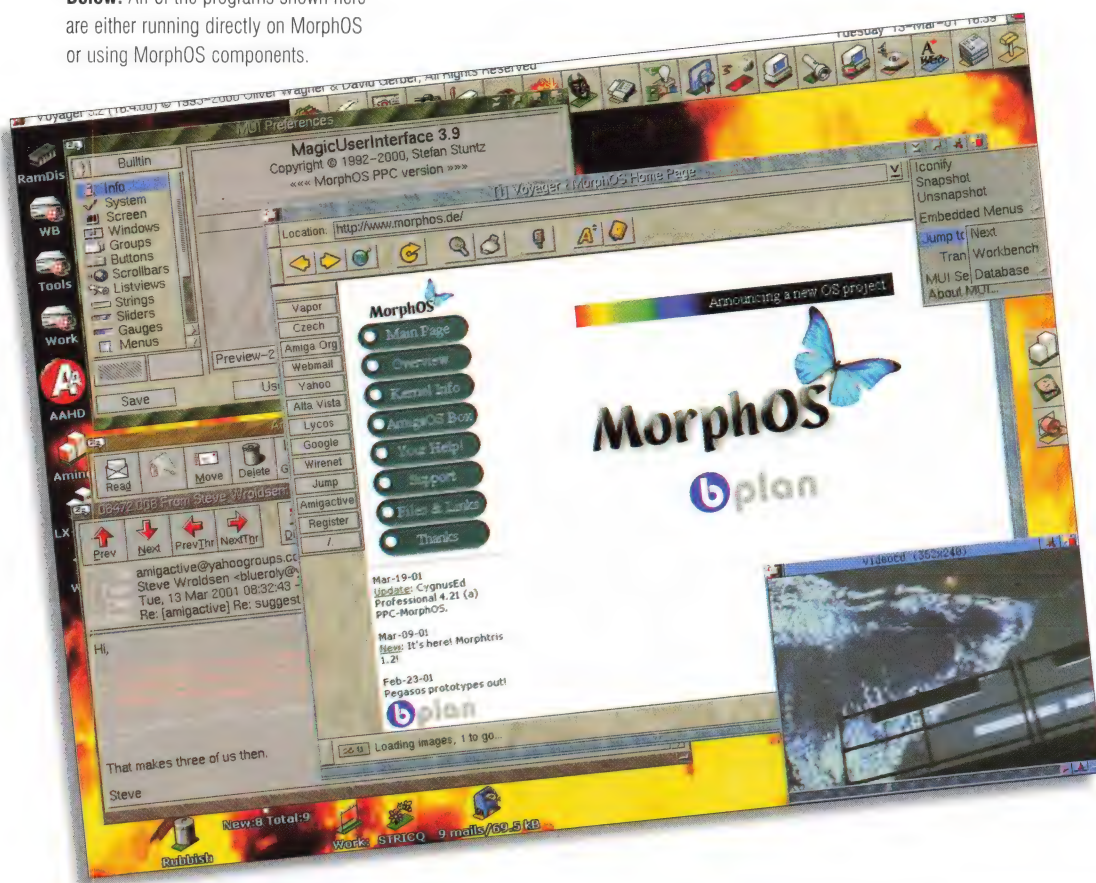


MorphOS



The PowerPC Amiga OS has been updated again... so, does it float like a butterfly, or sting like a bee?

Below: All of the programs shown here are either running directly on MorphOS or using MorphOS components.



It's been a little over six months since we looked at the first beta release of MorphOS. There have been two further releases since then, and several third-party programs have been ported across. How has MorphOS improved? Is it suitable for use as a general-purpose operating system yet?

Installing MorphOS is still more complex than it could be. The provided installer doesn't do much more than copy files to a single MorphOS directory on your hard drive. You then need to copy individual libraries and other components by hand, and you still need to edit your startup-sequence. This involves messing with some fairly crucial files, so you should definitely heed the warning to backup your boot partition before attempting the installation. Having said that, installation went without a hitch. Running the "startup" command reboots your Amiga. When it restarts, it is running MorphOS.

22 MorphOS 0.4

The latest version of the PowerPC Amiga OS goes under the microscope.

25 iFusion Preview

Tantalisingly close now, what can we look forward to on iFusion's release?

28 Eye-Surf

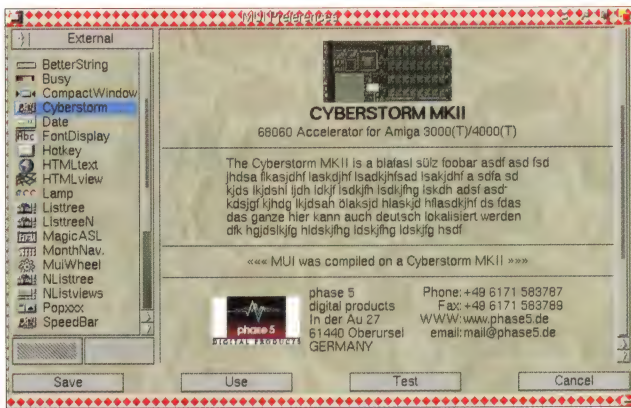
Sit back, relax and surf the 'net during commercial breaks, thanks to Eyeteach.

32 Shareware

Hundreds of pieces of shareware whittled down to the tastiest handful.

36 Active Media

A couple of CDs and a collection of web sites to delve into this month.



Left: Magic User Interface 3.9 running directly on the PPC processor.

“General Workbench emulation certainly feels more responsive than it used to.”

It is disconcerting to see the power LED flickering away as you boot. This is normally a sign that something's wrong, but MorphOS uses it as an activity indicator. You worry when it stops flickering. Once I got used to it, I found this a useful reminder of whether I was running MorphOS or native AmigaOS. There's an option to turn it off if you really don't like it.

Starting up

The first time I booted into MorphOS I got a “MorphOS log” window open with a stream of error data. There are still some programs that cause problems for MorphOS (it is still a beta, after all). After some experimentation, I found the culprits and removed them from S:User-Startup or WBStartup. If you need to have programs run from user-startup in normal usage, but still want to be able to boot into MorphOS without problems, you can arrange for them to only be started when MorphOS isn't running, by adding a section such as this to your user-startup:

```
Failat 21
Version >NIL: MorphOS
If WARN
  Commands to be run
  without MorphOS...
Else
  Commands to be run
  with MorphOS...
EndIf
Failat 10
```

However, the programs that do still cause problems are in a minority. My startup is chock full

of utilities, hacks and patches of varying degrees of system friendliness, yet MorphOS only objected to two of them. Both were related to running Un*x ports, but failing to emulate AmigaOS emulating Unix is not a major limitation for a beta.

This release runs more of the operating system in native PPC code (see the “What's new in this version?” boxout), but most application software and a good chunk of the OS still runs as 68K code. This is handled by MorphOS' 68K emulation.

The last time I tried MorphOS, it ran at about the speed of a slow 68040 on my 233MHz 604e. It's now harder to compare with a 68k system, because the speed a program runs at depends on how much it calls on segments that have been ported to native PPC. General Workbench operation certainly feels more responsive.

Whenever a program tries to open a library, class or device, MorphOS first looks for a file with “.elf” appended to the name. Any system resource can be replaced with a native PPC version without affecting the way things work when MorphOS is not running. This means that individual parts of the operating system can be ported to MorphOS without requiring an upgrade to MorphOS itself. If a programmer releases a MorphOS version of his software, MorphOS will use this version without any user intervention.

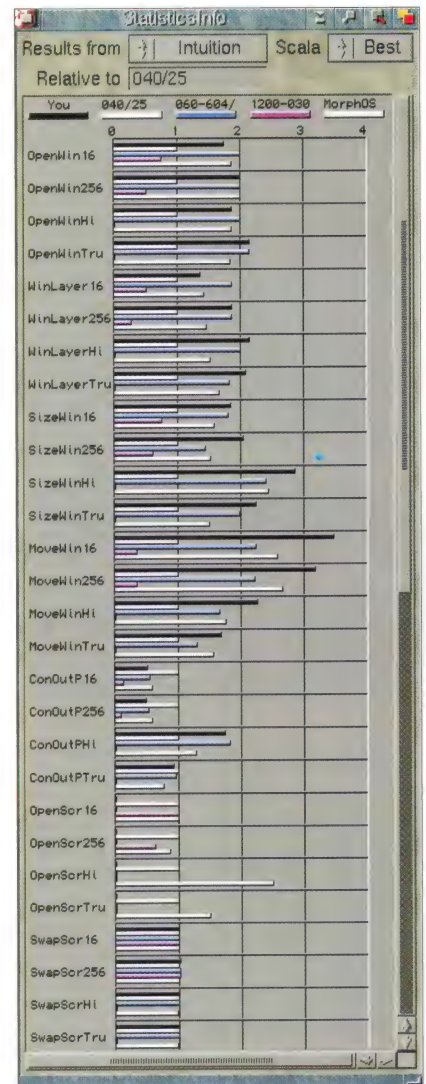
There have already been several programs ported to MorphOS. The most significant is Magic User Interface (MUI). Because emulating 68K

instructions is still relatively slow, any part of a program's work that can be handled by native PPC software means there is more processor time left for the rest of the program. A native PPC version of MUI means that all of a MUI program's GUI handling is handled by the PPC directly, leaving more time for the processor to handle the rest of the program.

Other software ported to MorphOS includes CyberGraphX (included with MorphOS), AHI and XPK. All of these are library systems, used by many other programs. This means their porting is of general benefit. Single applications, like Frogger and even a Tetris clone, are also available in MorphOS versions.

0 to 060 how quickly?

Enough talk; just how fast is it? It's impossible to give a single “as fast as a 68040 running at X MHz” answer, because so much depends on the programs you are running and which MorphOS libraries and devices you have installed. The graphs (right) show the comparative performance of MorphOS running on an A4000 233MHz CyberStormPPC using SysSpeed to measure and compare various aspects of the system's operation. This is compared with



Above: SysSpeed shows that MorphOS' Intuition functions are noticeably faster than an '040/25, faster than an '060 in many cases. The bottom white bar on each set are the speeds of the first MorphOS release - spot the difference.

"It varies from MorphOS being half as fast to four times quicker..."

► an A1200 using a Blizzard 030/50, an A1200 using a BlizzardPPC 040/25 (240MHz PPC) running AmigaOS and the same A4000 with the CyberStormPPC 060/604e running AmigaOS instead of MorphOS. The tests pictured show marked differences between the performance of MorphOS and a genuine 040/25. It varies from MorphOS being half as fast to four times quicker, depending on how much is running on the emulator and how much is handled by the native code in MorphOS.

Due to time restraints, we were unable to put this MorphOS SysSpeed module on this month's AACD, but we will include it - along with SysSpeed itself - on the next coverdisc. Then you'll be able to directly compare the performance of MorphOS with your current AmigaOS set-up.

Test	You	040/25	060-604233	1200-030/50	MorphOS 0.1	Compare
OpenWin16	16	8	16	6	15	2.00
OpenWin256	16	8	16	4	16	2.00
OpenWinHi	16	8	16	15	15	2.00
OpenWinTru	12	7	15	13	13	1.71
WinLayer16	21	16	30	8	23	1.31
WinLayer256	29	15	28	4	22	1.93
WinLayerHi	28	13	28	20	20	2.15
WinLayerTru	22	12	22	20	20	1.83
SizeWin16	150	70	127	52	111	2.14
SizeWin256	138	80	116	49	123	1.73
SizeWinHi	114	49	119	120	120	2.33
SizeWinTru	108	56	111	84	84	1.89
MoveWin16	622	174	393	61	452	3.57
MoveWin256	610	168	373	59	447	3.63
MoveWinHi	335	195	324	345	345	2.03
MoveWinTru	235	168	220	263	263	1.40
ConOutP16	131	253	141	33	147	0.52
ConOutP256	126	251	134	23	147	0.50
ConOutPHi	54	54	89	70	174	1.74
ConOutPTru	70	74	72	57	0.95	
OpenScr16	0	10	0	10	10	-----
OpenScr256	0	9	0	5	7	-----
OpenScrHi	0	2	0	5	5	-----
OpenScrTru	0	2	0	3	3	-----
SwapScr16	50	50	50	50	50	1.00
SwapScr256	49	49	50	49	50	1.00
SwapScrHi	49	50	50	49	0.98	
SwapScrTru	50	50	50	49	1.00	

Above: The addition of more native code means that some parts of the operating system now run faster than an 060, while the emulated parts are still slower than a 68040.

The times for the PPC programs were almost identical, but the difference in the 68K times shows that the raw 68K emulation still falls well behind a real 68K chip. The good showings on other tests are due to parts of the system running PPC code. A situation that will improve as more of the system is ported to PPC.

Lame Benchmarks!

	AmigaOS	MorphOS	Compare
LAME.elf	0:21	0:22	98%
LAME.060	2:53	18:14	35%

To test the CPU emulation without any bias from the performance enhancements of libraries running natively, we used a program that really hits the CPU in some heavy duty number crunching, LAME. This is an MPEG audio encoder, one of the most strenuous tasks the Amiga is capable of performing (aside from rendering an entire season of Babylon 5 on a single A500). We tried with both the '060 and PPC versions, to see how well MorphOS runs PPC software too. The test was to encode a 30-second AIFF file using the LAME defaults.

It's getting there

MorphOS is certainly improving, the addition of more native PPC modules and third party programs like MUI has produced a significant performance boost. This is quite impressive when you consider the small team working on it and the fact that the first beta was released only seven months ago.

Stability needs to be improved before I would consider it suitable as a general purpose operating system; there was a tendency for the system to hang for no apparent reason, although this didn't happen that often. This

beta has a two hour time limit, after which performance drops to A500 levels. A reasonable way of implementing a timeout as a complete stop could cause all sorts of problems, especially if you hit the two hours while writing to disk.

There is no way to register and remove the time limit yet. It's refreshing to find someone that is refusing payment before the program is finished. All too often software companies take the opposite approach, sometimes even taking pre-orders well before anything is ready to ship. It can be frustrating for those who want to pay up front to remove the time limit, but it does mean the MorphOS team is free to devote their time to improving the software without the support obligations of paying customers. I'm sure the author's will be more than happy to take your money when they consider MorphOS to be ready.

Neil Bothwick **A**

What's New?

- Support for AmigaOS3.5/3.9 update ROM modules and external ROM modules.
- WarpOS emulation (see below)
- New native modules:
 - exec
 - expansion.library
 - romboot
 - input.device
 - keyboard.device
 - battclock.resource
 - battmem.resource
 - cardres.resource
 - cia.resource
 - potgo.resource
- Improved CyberGraphX PPC with native Superlayers
- Improved BlizzardPPC support
- Native jfif.datatype
- Better developer package
- More efficient PPC/68k switch.

WarpOS & Warp3D

A significant addition to this release is the ability to run WarpOS software. While the split between PowerUp and WarpOS in application software is fairly even, the majority of new PPC games use WarpOS. The addition of WarpOS support is a major step forward - not only because of the extra software that can now be run. It implies a relaxing of the PowerUp vs. WarpOS stance of recent years, at least on one side of the divide. This can only be good for the future.

The Warp3D Engine demo ran at an almost identical framerate with MorphOS and WarpOS. However, I was unable to get GLQuake or Wipeout to run. There appears to be a problem running these programs on a CyberStormPPC card, but owners of BPPC cards report that they run well on their machines (as does Heretic II). If anything they are slightly smoother on MorphOS.

iFusion

preview

Eagerly anticipated for months, iFusion is now all but completed. Patient though we are, we asked Publishers Blitterssoft to give us the lowdown before its official release.



**“Mac emulation on the Amiga
is about to take another
bold step forward...”**

The original 68k Macintosh emulator, Fusion, was released four years ago back in 1997. The Emplant board (pictured), Fusion's hardware predecessor, dates back half a decade before that. Today, Mac emulation on the Amiga is about to take another bold step forward with the release of the PowerPC Macintosh emulator, iFusion.

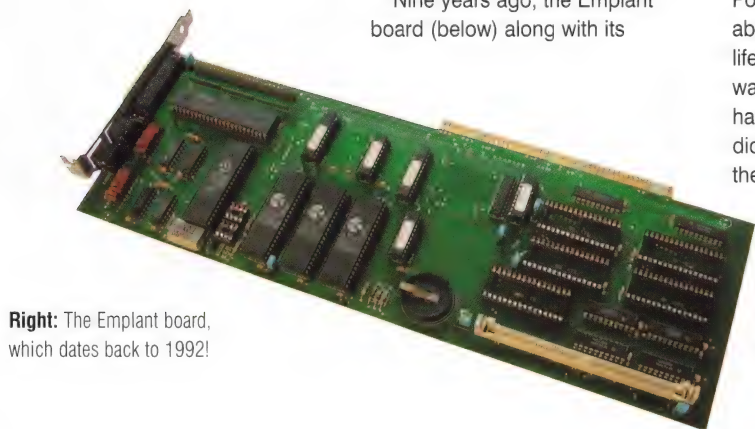
Nine years ago, the Emplant board (below) along with its

accompanying software was all you really needed to happily emulate a Macintosh. The best Mac you could buy at the time was a Quadra - and thanks to Emplant, 68040 Amigas were capable of giving a similar performance. As time moved on and Mac hardware progressed, however, the Amiga's hardware - as we all know - has stood all too still. The advent of the first PowerPC-based Macs brought about an end to Fusion's useful life as more and more software was written to take advantage of hardware that Amiga owners didn't have access to and therefore couldn't emulate.

From the first 601 PowerPC chips, the 603s, 604s and now the G3 and G4 PPCs being used in the latest range of Apple computers, Amiga owners

have lost the ability to run the latest versions of the Mac OS and all of the professional applications that go with it: Photoshop, Illustrator, QuarkXPress et. al.

The beauty of the latest Power Macs, however, is that they no longer require a hardware ROM - good news for Amiga owners, as it has taken virtually all the hassle out of setting up an emulator. No longer do you have to source a legal ROM image (it is illegal to use a ROM image if you didn't own the actual ROM) and rip it with a special software utility. Instead, all you need to do is go out and buy a version of MacOS on a CD, as the discs now include a ROM image: pop it in your Amiga's CD-ROM drive, copy the ROM image across, await your copy of iFusion and you're ready for PowerPC Macintosh Emulation.



Right: The Emplant board, which dates back to 1992!

► Technical Details

The latest version of the Mac OS supported by iFusion is 9.04, the earliest, 8.6. If you're hoping to run Mac OS X, you may be disappointed (although some would argue that if you could run Mac OS X, you'd be even more disappointed).

You'll need a rather modest Amiga to run iFusion: PowerPC, the latest version of WarpUp as supplied on the iFusion CD, a minimum of 32MB RAM (although 64MB is a minimum if you want to run Mac applications to do anything approaching serious work, and you can at least double that figure if you want to do things properly).

Currently, iFusion will support any graphics card for which there are CyberGraphX drivers - you'll need the latest version of CyberGraphX, version 4, too. Blittersoft tell us that there is a mono AGA driver, but unless you only want to use Notepad or the Calculator, you'll really need a graphics card!

At the risk of stating the obvious, you must also have a CD-ROM drive and plenty of Hard Disk space for the iFusion installation. A separate partition is highly recommended for speed (always has been) as running a 68k Mac - let alone a PowerPC emulation - from HardFiles is much slower. Sound, meanwhile, is supported via the freely available AHI system.



Above: You can't fool us. We know you'll probably only want to play games...

“...and you can at least double that figure if you want to do things properly...”

Transferring files between the Amiga's operating system and Mac OS was achieved in Fusion via a specialized tool, which, Blittersoft informed us, won't be available with the initial release of iFusion. The alternative, of course, is to transfer files with floppies (those notepad files, then) or PC formatted zip disks. Both the Mac OS and most recent versions of Workbench which have included the CrossDOS software are capable of formatting and recognising PC disks - be they floppies or zips.

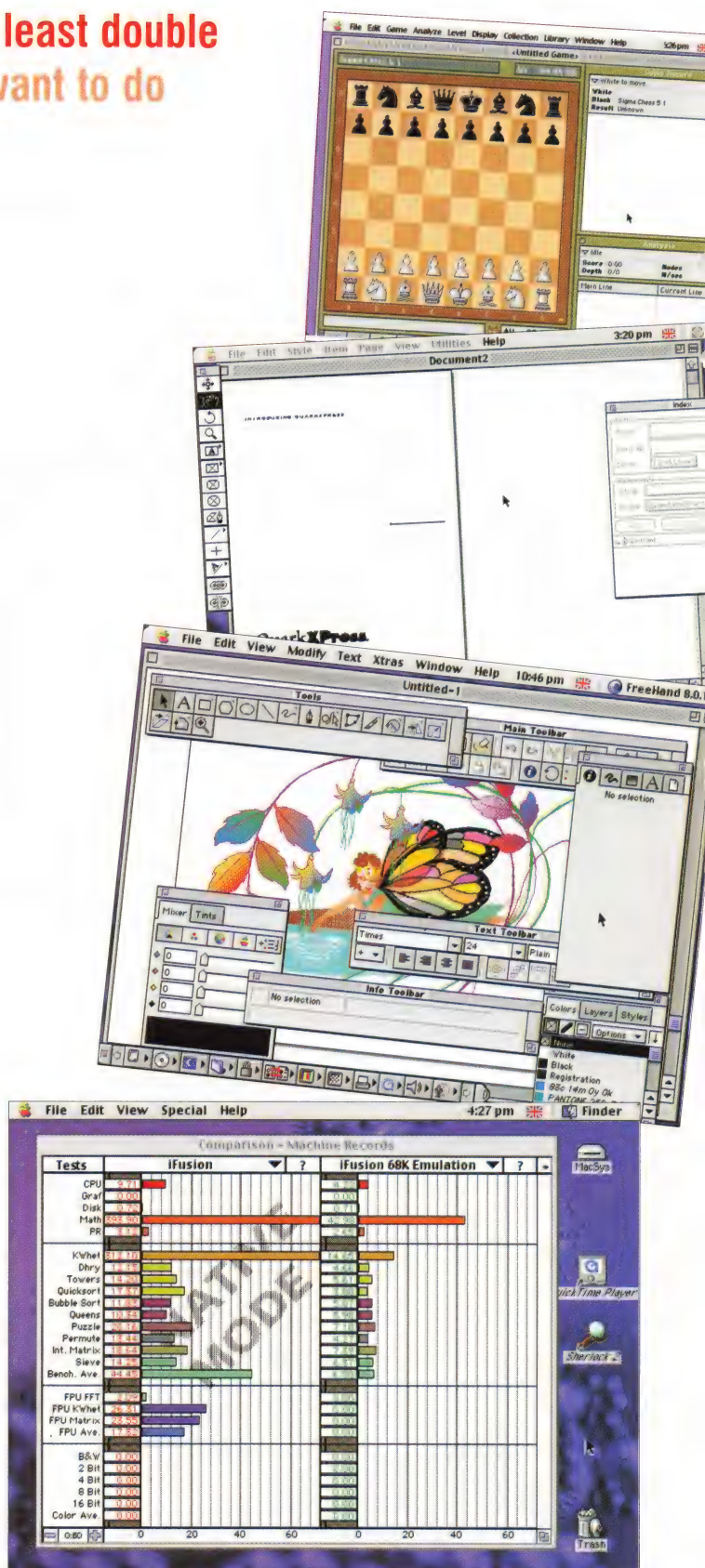
Which PPC?

To date, the developers have been running iFusion successfully on a CyberstormPPC card in an A4000, but have been unable to get the software functioning at all on their BlizzardPPC cards, due to an incompatibility between the BlizzardPPC and Haage & Partner's WarpUp libraries. The WarpUp team are currently cooperating with iFusion's developers to solve the problem as quickly as possible, so that the first release will work on both flavours of PowerPC accelerator.

The way iFusion has been developed means that any future hardware which WarpUp supports will be able to run PPC Mac emulation. SharkPPC card purchasers will be praying for WarpUp implementation on Elbox's forthcoming G3/G4 Amiga accelerators. There are also plans to support the Warp3D graphics system in future, so gamers with a SharkPPC and suitably specced 3D graphics card should be able to get the best games performance.

Blittersoft have promised us that we will have a review of iFusion shortly. We hope it will arrive in time for next issue, but until we have the finished version in our hands, we obviously can't make any promises.

David Stroud 



Above: Whether you want to play games or run some of the latest Mac applications, iFusion will let you do it. The benchmarks in the above picture show that iFusion's 68k emulation is quite impressive, but it's the PPC emulation we're interested in. Just how well it performs we'll have to wait and see, but one thing's for sure: the Amiga's dated hardware (hard drive interfaces and so on) will put the brakes on iFusion's capabilities.



Scared of SCSI? Troubled by termination? Disillusioned about daisy chaining? The first in our new series of Mini Masterclasses will put you straight.

SCSI is far more capable than IDE in terms of flexibility and performance, but getting it working right is sometimes considered a black art. It's really quite straightforward, as long as you can count to two.

SCSI devices are connected in a 'chain', a series of devices linked by a cable that runs from one to the next. The first two implementations of SCSI, 1 and 2, can see up to eight devices, whereas SCSI 3 can handle sixteen. For most purposes, the controller should be considered as just another device in the chain.

Internal devices are generally connected by a length of ribbon cable, with connectors every few centimetres - one cable connects all internal devices. External devices are usually 'daisy chained'. A cable goes into the back of one device, and another cable comes out and connects to the next one. This is a critical aspect of a SCSI layout: the chain must be a single straight path in electrical terms. You cannot have 'T' or 'Y' junctions.

Every point on the chain should have cable leading away in exactly two directions, which means that there are exactly two ends to the SCSI bus. With a controller and single drive, it is obvious where the ends should be. A more complex setup may consist of internal and external devices, but there must still be exactly two ends. Figure 1, below, shows an example of a SCSI chain.

There are a lot of devices here, but they are connected in a straight line, through all the internal devices and then out to the scanner and Zip drive.

"Every point on the chain should have cable leading away in exactly two directions..."



Above: Figure 1 - an example of a SCSI daisy chain, without termination. The SCSI controller sits between the internal devices (hard drives) and the other, external, SCSI components.

Terminators 2

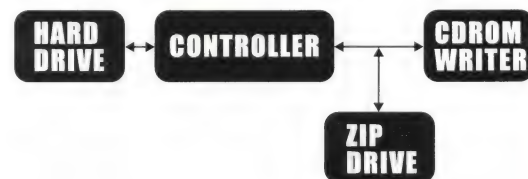
If you connected everything up like this, however, things would go horribly wrong. Signals would reach the end of the chain, have nowhere to go and be reflected back, confusing everything and everyone. The solution is to 'terminate' each end of the chain. Terminators prevent the reflection of signals. The chain must have exactly two ends, so it must also have exactly two terminators. There are no ifs, buts, maybes or exceptions. You may find that a SCSI setup works with incorrect termination, but that's more through luck than anything else, and it's likely that any change in future will cause the whole thing to fail. The setup in figure 2, for example (below) will NOT work, however you terminate it.

Most SCSI controllers auto-terminate. If you have no external devices connected, it is terminated. Once you connect something to the external port, this termination is disabled.

There are three types of SCSI, designed for full compatibility. A SCSI 1 drive will work on a SCSI 2 controller, and vice versa, although only at the speed of SCSI 1. SCSI 1 uses a variety of external connectors - 25-pin D, 50-pin Centronics and 50-pin Micro D. SCSI 2 standardised on the Micro D type connectors.

Neil Bothwick **A**

Below: Figure 2 - an example of a SCSI setup which will never work, however hard you try!



CyberStormPPC

The CyberStormPPC's SCSI interface differs from the norm in a number of ways. Firstly, there is only an internal connector, which is unterminated. If you only connect one SCSI device, you also need a separate terminator connected to the controller. With more than one device, you simply put the controller mid-chain.

Secondly, it also uses ultra-wide SCSI. This uses a 68 pin cable and a 16 bit data bus in place of the 8 bit bus on older SCSI implementations. There are adaptors to convert a 68 pin connector to 50 pin, but these can interfere with termination. If you drop from 16 bits to 8 bits, the remaining 8 bits must be terminated in the adaptor, as the rest of the chain is now 8 bit and only that is terminated. The 50-68 internal adaptor from Maplins works well with the CSPPC.

Passive terminators are packs of resistors connected to the end of a chain. Active terminators use electronics and draw power (Term Power) from the SCSI bus. At least one device on the chain must supply Term Power. The CSPPC needs active termination, but doesn't provide Term Power, so make sure that at least one device, usually a hard drive, does this for you.



Eye-Surf

Looking for a simple way to get yourself online?

If you're one of the thousands of Amiga owners without a supercharged, big-box or towered Amiga, there's a fair chance you won't have ventured onto the Internet. The thought of buying an accelerator, graphics card, extra memory and networking software - let alone configuring it all - just to get online probably makes you shudder. If so, you may want to consider the Eye-Surf set-top box, an all-in-one plug-and-play Internet package for under £80.

On your marks, get set...

The Eye-Surf is really just a rebadged set-top box manufactured by Pace and originally distributed under the name of Bush Internet - although it should be noted that Eyetech are selling the device so that its users can benefit from Amiga-friendly support, and (Eyetechn hope) buy some Amiga gear online via the device to gradually upgrade their modest Amiga systems as a result.

The box itself looks quite subtle - or it would, had Eyetech not whacked one of their huge stickers on the front (a little unnecessary, in our humble opinion). Also situated on the front of the unit are two LEDs (power and online indicators) and an infra-red sensor for the remote keyboard. On the rear of the unit there are a couple of SCART sockets to facilitate connection to a SCART-equipped television, a printer port (you'll need a compatible printer - see boxout) and a 'phone socket. Plenty of telephone cable is supplied, as is a good quantity of easy-to-follow documentation on getting started.

Once you're plugged in and turned on, setting up the device is relatively straightforward, requiring registration with Bush Internet (or Freeserve), which means setting up your username, password and e-mail address. The process only takes a few

Technicalities

The Eye-Surf's Internet connection is provided via a pre-programmed lo-call 0845 number to Bush Internet (or Freeserve). Internally, the device is based on an ARM CPU and has a built-in V34 modem and just 2MB of memory. A relatively low-resolution, de-interlaced display provides as steady a picture as you're going to get on a TV, which is sufficient for the majority of information-based web sites.

The software, running on the RISC OS platform, includes a web browser which conforms to HTML 3.2 with "HTML 4.0 extensions", Javascript and SSL

(Secure Socket Layer) used by the majority of online shopping sites for security. Configuration is limited: an "options" button on the keyboard allows you to fine-tune the font size used when displaying web pages (small, medium, large), connection properties (pulse/tone dialling, dial prefix, timeout) and printer setup. That's it.

You're limited in the choice of printers to connect to the device, as the box only supports four types: Canon BJC-1000/2000 or Lexmark 1000/1100. According to the user

manual, a specialist Bush-branded printer is recommended, and available from Bush stockists. We were unable to test the printing feature of the device, as we didn't have a compatible model to hand.



Set tops not for all

Some of our readers who already have a computer on the 'net at home may be tempted to buy this set-top box in order to browse the web in more comfort than is afforded when sitting at a desk. If you're one of these people who has already enjoyed browsing the web and using e-mail on a 'proper' computer, the Eye-Surf will make the Internet

look positively primitive in comparison. There are several reasons for its limited capabilities, the first being - quite obviously - cost. You don't expect an £80 box to out-perform an £800+ desktop computer.

Second, because you'll be viewing web pages on your television, the Internet certainly won't be dressed up in its Sunday

best. The browser is capable - with built-in SSL and Javascript support - but less than ideal in terms of configurability. You can only choose between small, medium and large font sizes to render web pages, and the display, despite being "fully de-interlaced" certainly isn't rock-solid. Remember, you're not plugging the Eye-Surf into a

monitor refreshing at 100Hz.

Despite these limitations, it's fine if other members of the family will use the Eye-Surf for looking up information on the web between TV programs or writing the occasional e-mail. But remember, you only have one e-mail address - so you'll have to fight for it, like you do the TV remote...

minutes - about the time it would take you to install a suite of networking software on your Amiga (after upgrading it!). After plugging the device in, you can be online within ten minutes.

...hit the big yellow key!

So, is browsing the 'net from your armchair using the Eye-Surf an enjoyable experience? Well, yes and no. You'll be using the remote keyboard a lot, but its design is far from perfect. Yes, the keys are full-sized and responsive, and you can't miss the big yellow button labelled "Internet" which will get you online, but the "Hang Up" button is a lot harder to locate (top row, third from the right, badly placed between the "Options" and "Toolbar" buttons).

This isn't helped by the fact that all the keys are grey, with the "function" keys being smaller than the alpha-numeric keys and, most absurd of all, printed with pale yellow lettering. Even for

those with 20/20 vision, reading these tiny yellow-on-grey keys is a problem, which doesn't bode well for the novice 'net heads or the relatively inexperienced computer users among us. My Dad, I fear, would not have a good time trying to get to grips with this keyboard.

Additionally, the design of the infra-red transmitter (on the keyboard) and receiver (on the set-top box) isn't the greatest in the world. Maintaining a good signal between the two (to avoid the dropping of letters as you type) requires that you position the keypad almost square-on (within a 30-degree angle) and at almost the same level, vertically, as the set-top box, which isn't conducive to lounging on the sofa whilst you surf.

Because of this, I often found myself typing a web address (www.amigactive.com is always

"After plugging the device in, you can be online within ten minutes."

a good one to start with, I find), then looking up only to find that the keypad had failed to transmit a letter halfway through. Most frustrating. Not to mention the fact that too much looking from keyboard to screen can cause neck strain.

Aside from keypad concerns, however, the Eye-Surf performs well. We browsed a range of sites, including those from Eyetech, the BBC, Yahoo! and British Airways. We experienced one "internal browser error" which resulted in a page on the RFU's official web site failing to load (I didn't really want an official England rugby jacket anyway), but other than the odd minor glitch and the

relatively low-resolution expected of television sets trying to do the job of a dedicated monitor, this sub-£80 device stood up well to our exacting standards.

Let's face it - for 80 notes, you can't expect miracles from a set-top box. The Eye-Surf provides a quick way of surfing the Internet from the sofa: It'll let you look up those cheats for your latest console game, check your e-mail, do a bit of shopping or catch up on the latest news without having to change rooms and boot up the desktop machine.

If you don't expect any more, the Eye-Surf is for you - and if you still need convincing, Eyetech will give you a ten percent discount on purchases from its web site made via the device within six months of purchase - so it could just pay for itself too.

David Stroud **A**



Eye-Surf

SYSTEM: SCART television and a phone line.

SUMMARY: The Internet won't look its best, but newcomers will be able to access the web and e-mail with ease. For under 80 quid, you can't really argue.



NextGen Watch

These are the people who know exactly what happens when pixels collide.



One of the best things about Amiga's partnership with Tao Group is the partnerships the latter company has already established. Tao Group is one of a cluster of forward looking European companies set up to develop Intellectual Property for the digital sector. Unsurprisingly, these companies often find that the IP they are developing complements the IP being developed by another similar company, and partnerships are formed.

"...current clients include Raytheon and NASA."

Tao Group's aim is to provide a single universal multimedia layer that can go anywhere; this will be the foundation for digital content (programs and multimedia) in the new Amiga. Thus they have sought partnerships with companies who can bring more multimedia power to their multimedia layer. In the arena of games development they have looked to the brave new world of middleware.

The idea behind middleware is that developers can write to a code layer bought in from a middleware provider which offers many of the common functions required by games. In a way this is the logical extension of a tradition of growing abstraction which existed in a very simple form in the Commodore 64's kernel, extended through APIs such as OpenGL and Warp3D and finds its current form in game development toolkits which can

provide pretty much the entire code engine for the game being developed.

Powered by MathEngine

We have already heard much about one middleware partner, Criterion. Their Renderware toolkit, currently being used by around 250 games software houses including Activision, DMA Designs, Konami, Interplay and UbiSoft, is supposed to be being ported to Tao's intent multimedia layer. But it's not the only one. In September of last year, Tao

formalised a relationship with another UK middleware firm: Oxford based MathEngine, who will be providing 2D and 3D software technology. Although this relationship is still young,

MathEngine and Tao Group have been in communication for some time, and MathEngine are clearly keen to have their libraries available on intent. Lincoln Wallen, the CTO (Chief Technology Officer) of MathEngine told Amiga Active magazine, "*Tao/intent provide OS level services and components that make delivery of our technology faster and more portable.*"

MathEngine can't yet boast the numbers of developers Criterion can, but it's early days for them. However, they aren't a simple rival to Criterion, as you might guess when you hear that current clients include Raytheon and NASA. MathEngine combine gaming and engineering with a product line aimed at creating realistic physical simulations. Current users of the system include games companies such as Vivid Image, HotGen, Argonaut and

SmartDog, who are using the software to help create realistic environments and effects for their games. At the other end of the scale, NASA uses it to provide a simulated Martian environment to try out designs for robot probes.

The core MathEngine product is Karma, a development toolkit for rigid body and collision physics. Using it to control the interaction of shapes in a 3D space it is possible to create environments, and objects within those environments, which behave according to the laws of physics. The physics libraries handle the motion of rigid bodies according to definable parameters, including rigid and flexible joints and spring-like connections between rigid bodies. They can account for surface friction acting upon the movement of objects, and collisions between object primitives or arbitrary object meshes, handling many multiple simultaneous collisions and offering a time of impact estimate.

Good Karma

Karma runs on Windows, Linux and SGIs, the platforms most commonly used for development. The physics libraries will run on a number of target systems, including Windows, Playstation 2 and various embedded systems such as the mobile gaming system being developed by MathEngine in co-operation with Motorola as well as intent, making it much easier for the developer to produce ports of the game or application to all those target systems.

MathEngine also offer a rigid body dynamics plug-in for 3D Studio Max 3.1, the market leading 3D modelling animation software. This allows 3DSMax scenes to be given physical properties, joints etc. Constants such as gravity and behavioural parameters are set globally through a world module.

In creating a realistic 3D game or application, making a believable static environment is trivial compared to making a believable dynamic one. How often have you seen a pretty game spoiled by polygons intersecting each other or not interacting properly? How often have you wanted to push that gargoyle off the battlement to land on the black knight's head but couldn't because the coder never thought of the possibility? This sort of physics engine can change all that.

By giving all the objects in the room physical properties that interact with each other according to algorithms which mimic reality convincingly, the environment becomes a truly dynamic one. You can push the gargoyle, if you are strong enough, and not

"Having this means that it will be cheaper and easier for software companies to target the new Amiga...."

only will it land nicely on the black knight's head, it will bounce off and roll along the ground in a convincing fashion too. Perhaps it will land on the edge of a table, causing the table to tilt up and all the objects on the table to fall off. Doesn't that sound a lot more interesting?

MathVentures

The wide range of uses MathEngine's physics engine can be put to have prompted MathEngine to create several "market-focused" subsidiary companies and joint ventures to take their engine into the academic and engineering sectors.

The first of these, Immersive Entertainment PLC was set up in conjunction with Demis Hassibis' games company start-up Elixir and Oxford University. They produce educational software using the kind of technology normally seen in games development. Their Rochester Cast Siege Game uses some of the MathEngine physics libraries to allow pupils to try their hand at besieging a mediaeval castle.

Lumeo Software, Inc. produces software design to simulate and demonstrate the behaviour of products without having to make a physical model, a sort of virtual prototyping system. The latest offshoot, Critical Mass Labs, provides visual simulation software to the engineering industry, allowing modelling of complex environments for simulation training, robotic design, medical research and similar purposes.

Compatibility

So what does this mean to the Amiga? We will get a cutting edge physics library, and perhaps more to the point one that works on a number of other platforms as well. Having this means that it will be cheaper and easier for software companies to target the new Amiga platform in the future - if they are working on a program using this engine it will simplify the task of porting to multiple platforms. This is seen as an increasingly important advantage for development in the games sector, where making the wrong decisions about which platform to support can be fatal to a company. Middleware makes it cheaper and easier to cover all your bases. With the total inter-platform compatibility Tao offer, the prospect becomes even more tempting to developers working with the MathEngine middleware.

Another effect is that it helps to bring development for the Amiga into the mainstream. With more common development tools being used for the new Amiga OS and other platforms, not only is it easier for companies to produce ports to the Amiga, it is easier for programmers to get to grips with the new system as well. This will mean that companies interested in developing for the new Amiga are less likely to be put off by the problems of retraining for a new platform target; they will already have coders used to working in development environments that can be used to develop for the new Amiga. The flip side of this is that Amiga developers can learn skills in developing for the new Amiga that will stand them in good stead for developing for other platforms.

The availability of the MathEngine physics library for the AmigaDE will mean that Amiga developers will have another weapon available to them in the struggle to write new and interesting code with the minimum of difficulty.



Above: Actor, from Vivid Image. This room is filled with objects that behave realistically - a punch bag you can punch, a useable basketball and hoop, a pool table you can actually play etc.

Potential

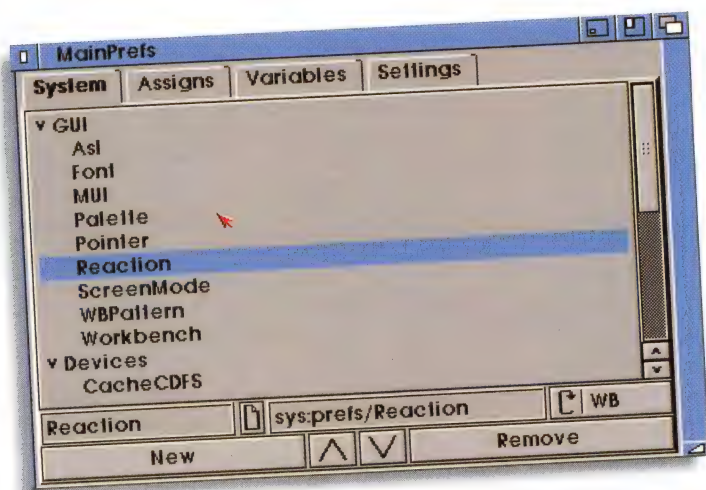
While MathEngine isn't going to suit every developer, it has the potential to help release creative notions which are limited by development issues.

MathEngine CTO Lincoln Wallen told us, "Amiga developers have a fantastic reputation for innovation; we hope to work with some of the community to enable them to develop content for a range of markets based on consumer devices. Feedback from developers is crucial to us for technology development, and we are keen to enable Amiga developers to make money by producing really exciting content for a range of devices."

"...the environment becomes a truly dynamic one."

Active Shareware

Amiga Active dips its icy scoop into the tub of Amiga shareware.



Mission control

Many desktop systems have a centralized control console from which you modify system settings, but the Amiga's Workbench doesn't (although you could argue that the Preferences directory in itself is such a beast). MainPrefs

([util/wb/MainPrefs.lha](#)) is an attempt to provide this.

The Reaction-based MainPrefs GUI is split into four pages. The first (pictured above) contains a hierarchical and user-definable list of preferences modules. Each module is basically a command that can be launched on double clicking and can either be a

shell script, a WB program, an AREXX script or a text file to edit. You can include your standard prefs editors here and add entries to modify your start-up sequence and so on. Dropping a Workbench tool icon here will add that program as a prefs command.

The second page (above right) contains a list of the system's Assigns, where you can add, remove or modify entries. It supports the usual 'lock',

'add', 'path' and 'late' types of assigns, but this part of the GUI is less useful since the state of the assigns cannot be saved - any changes will be lost on a reboot. What MainPrefs needs here is a tool to shove into your startup-sequence to re-make the assigns that you have entered here when you reboot.

The third page of the MainPrefs GUI shows a list of environment variables. Actually, it shows the contents of your ENV: directory, since you can browse sub-directories stored there as well as viewing the contents of any textual files that correspond to variables.

“does its job adequately, even if it is less than visually appealing.”

Double-clicking one of these will open that file with your editor where you can modify its value. Bringing up the rear is a settings page, where you can set preferences such as your preferred text editor to be used with MainPrefs.

MainPrefs does its job adequately, even if it less than

Magical mounting

In many ways, the Amiga's support for removable media is remarkably flexible. You can set up multiple mountlists to support, on a single drive, the reading and writing of disks formatted with a variety of filesystems.

One problem, however, is that you get those icky, ghosted icons on your Desktop, for all the mountlists mounted for the device but unable to read the disk in the drive. We looked at one solution for this last month,

called GhostBuster, but there are other ways around the problem. One possible alternative would be to manually mount the correct filesystem when you insert a disk in the drive and unmount it when you have finished with it. That sounds very tedious, though, doesn't it? So let AutoMounter ([disk/misc/AutoMounter.lha](#)) do some of the work for you.

AutoMounter is a little daemon that sits in the background of Workbench waiting for disk-change interrupts on drives that is has been told to watch (it even

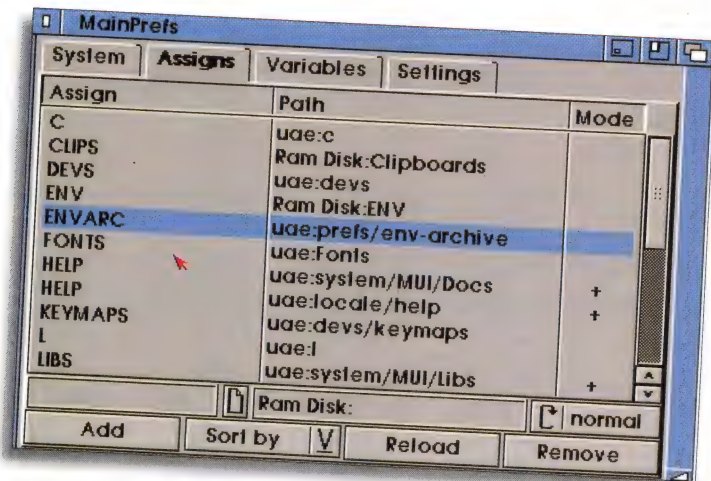
supports polling for drives that don't generate such interrupts).

AutoMounter is designed specifically for use with Zip disks which will commonly be either formatted with a FAT filesystem (for DOS and Windows) or some Amiga filesystem, along with a Rigid Disk Block (RDB).

Either way, AutoMounter will automatically mount either for you when inserted in a watched drive. Support of FAT-formatted media is either through CrossDOS or the FAT95 filesystem, also available on

Aminet. It cannot handle media with multiple partitions, but on the plus side won't get fooled by RDB-formatted disks which have been given the same label.

This is simple little tool that gets the job done with a minimum of fuss. It would nice if it was able to mount other filesystem types - but, let's face it, anybody who wants portable data will use a FAT filesystem on their removable media anyway. And, more's the pity, Ext2 and ReiserFS filesystem handlers are not available for the Amiga yet.



visually appealing. Once again the standard Reaction widgets show that they are not really up to the job of producing good-looking or flexible interfaces. A case in point here is the lack of a good tree-list gadget; another

is the lack of drag-and-drop. Still, that's not really the fault of MainPrefs' author. If the ability to store assigns were added and maybe commodity functionality too, this would be a handy tool to have around.

Touched type

Postscript Type 1 fonts have long been supported on the Amiga with Amish S. Dave's `type1.library`, but while this package worked, it was a rather rough and ready solution. Thankfully, Detlef Würkner has resurrected the project, smoothed out some of the bumps and added some great new features (you can find the new version on Aminet at util/libs/Type1Engine.lha).

The old `type1.library` could only handle binary-encoded Postscript (PS) fonts, but this new release has support for ASCII-encoded fonts too. This allows you to install both `' .pfa'` as well as `' .pfb'` font programs. Also new - courtesy of some code borrowed from the Freetype project - is the ability to read PS font metric files and so calculate the correct kerning to use for glyphs.

Internationalization is also better handled now with the ability to select the character set encoding used in a font program. The library now understands the usual spread of ISO character encodings too.

The T1Manager, this project's equivalent of the standard Intellifont program, has been vastly improved in this release. It has been turned from a quick hack to get the job done into a tool that makes managing fonts easy. First off, when it creates the font headers in your system FONTS: directory, it uses the true name of the font that is encoded in the font program itself - rather than just relying on

Nostalgia again

Someone's done it again - yet another version of Breakout ([game/misc/FlashNG.lha](#) on Aminet). So why am I bothering to tell you about it, you might ask?

Well, for two simple reasons. Although Flashback is a rather rudimentary version of the game - with no power-ups, no sound, no level editor and not even a high-score table - it will run in any screenmode you choose, even RTG screens, and it

is distributed under the GPL. While it's not up to much as a game, the included source code provides some ideal tutorial material for the beginner C programmer wanting to get into writing system-legal games in C. If that's you, then why not take a look... and improve on it!



"The new Type1Engine is a vast improvement over the old one."

its filename. This means you no longer have to grapple with cryptic font names when selecting a font.

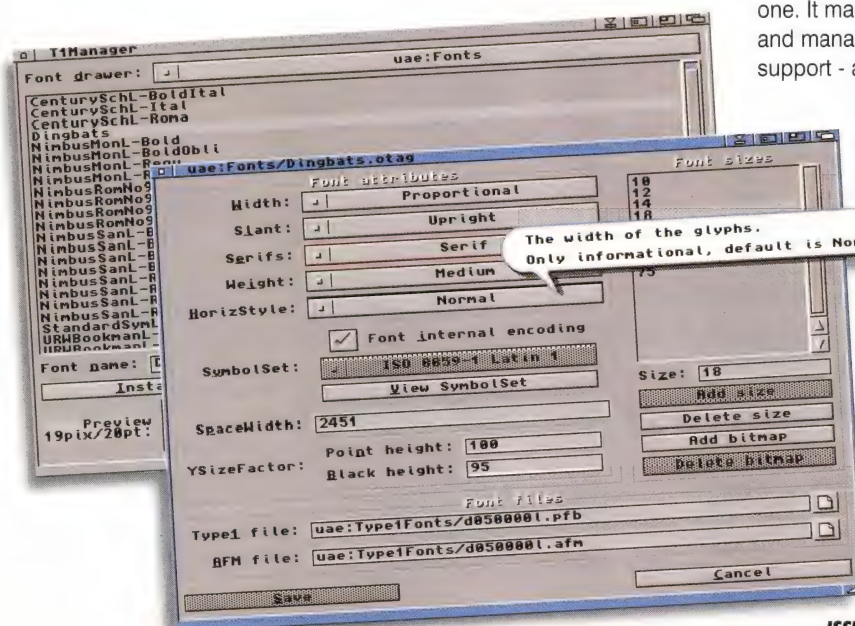
Additionally, T1Manager now sports an attributes editor where you can modify the properties of an installed font. Here you can choose an encoding, select whether a font is proportional or monospaced

and alter the point height. You can also choose to rasterize a font into bitmaps at selected point sizes and store them on disk. Little documentation is supplied with the package, but the T1Manager is fairly intuitive and has plenty of help balloons to point you in the right direction should you get lost.

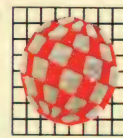
The new Type1Engine is a vast improvement over the old one. It makes it easier to install and manage fonts and with the support - at last - of metrics,

makes fonts look much better on screen. There's a couple of bugs that still need ironing out - most notably, the font preview is broken - but that's just cosmetic. Everybody should install and use Type1Engine now.

**Richard
Drummond**



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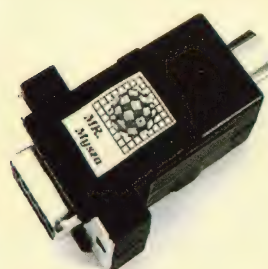
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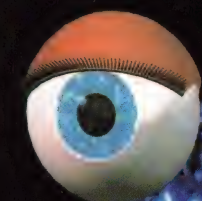
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Active Media

After yet another trawl through the ocean of media, Amiga Active returns to shore to reveal another month's finds.



Above: One of the many adverts reproduced in The Kickstart Archives.

Kickstart Archives

- CD-ROM
- Price: 26 DM (\$13) inc. European P&P
- From: Thomas Unger
- Email: kickstart@nexgo.de

Amiga hardware from Agnus to Zorro, press adverts for the legendary Amiga Joyboard to the television commercial for the ill-fated CD32, it's practically all in the Kickstart Archives.

We were already pretty close to deadline when this CD from Thomas Unger was popped through our letterbox by our unassuming postman. Had we known, we would have told him to keep hold of it for another week or two whilst we finished this issue, because this disc is stuffed full of documents, pictures and video clips related to the Amiga, dating back as far as 1983 which, to most long-time Amiga lovers, is like a red rag to a bull.

Not knowing any better, we opened the envelope to be greeted only with the hastily scrawled message, "Hi there, Are you

interested to make a review of my CD-ROM THE KICKSTART ARCHIVES about the Amiga history."

Undeterred by this blatant disregard for professionalism, we decided that yes, we might be, and popped the unlabelled disc into the Amiga.

Consisting mostly of web sites, all containing various accounts of the Amiga's history - both anecdotal and technical - the Kickstart Archives is a mine of information. If it isn't on this CD-ROM, chances are it didn't happen or never existed: a bit of an exaggeration, maybe, but there are literally hundreds of documents from dozens of sources to read through, in either English or German (mostly English), grouped into topics such as 'The History of Commodore and Amiga', 'Amiga Persons', 'Official Amiga Machines', 'Clones and Emulators', 'Amiga Operating Systems' and 'Peripherals'.

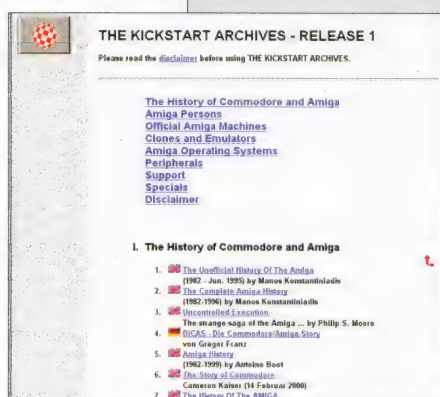
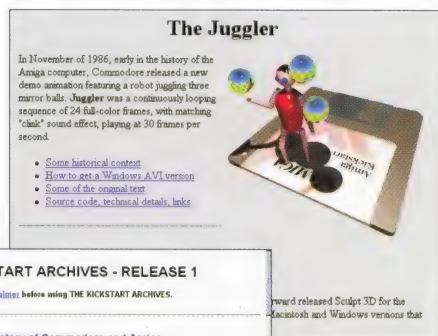
The reams of information available are presented in a range of styles - some are very basic, and therefore dismissed rather quickly, whereas others are laid out rather more thoughtfully.

There are some web sites on this CD which have obviously taken their authors many moons to lovingly compile. As a result, you can get so engrossed reading about hardware you barely knew existed that you lose all track of time and forget to do important things like eat, drink or produce another issue of *Amiga Active* on time.

Furthermore, if you only have a WIntel box (running Windows95 or later), you can happily browse the contents of this disc, as all the material is accessible from an HTML front-end. Indeed (although you'll probably hate us for saying it) this is sometimes preferable,

"...a lot of information that you won't be familiar with..."

especially when it comes to flicking through the PDF files with an official Adobe Acrobat reader - PDFs which include technical documents describing some of the Amiga's custom chips and a host of patents filed by Commodore, Amiga Corporation and Escom, not to mention a couple of related patents from the Stanford Research Institute, Atari and Apple.



There's a lot in The Kickstart Archives that many will already know, but there's also a lot of information that you won't be familiar with, or had forgotten about years ago. Like the Walker. Definitely a mine of information, then, but how much gold you find will depend on the knowledge you already have, and your willingness to hunt for gems. Just remember to set your alarm for tea-time.

DS



Airsoft Softwair Gold Edition

- CD-ROM
- From: Airsoft Softwair
- Price: £15, including UK P&P

Andreas Falkenhahn, the author behind Airsoft Softwair has released a whole host of goodies on one CD, entitled "The Best of Airsoft Softwair Gold Edition."

Truth be told, this disc contains an odd assortment of files. There are cheats for some old (and not so old) games such as Cannon Fodder, Capital Punishment, Lemmings 3 and Fire & Ice. Alongside these, we have a small collection of developer material, including source code to a couple of Airsoft's programs,

"...this disc contains an odd assortment..."

Cool Patcher and SNES9xGUI. Then there's a handful of gag programs - small Workbench hacks designed to confuse and amuse.

After the brief distraction of the gags drawer, we come to a drawer full of HD installers for a few old games, followed by a drawer of Multimedia. The usual suspects lurk here: pictures of varying quality and resolution (although for the most part disappointingly low on both counts), music modules, video clips (nothing special), samples (just a sound file of an old Escom interview in German) and Rainboot configs. Not just a few Rainboot configs, though: over fifty of them! The reason for their abundance soon becomes clear, if it wasn't already: RainBoot3 is also provided on this Gold Edition CD, as it is an Airsoft creation. So, if you like the idea of your Amiga booting up beautifully, with pretty pictures, progress bars, and details of your system's vital statistics, you could do a lot worse than fork out for this CD.

Apart from a good collection of RainBoot configs, however, it's hard to see where the

focus of this disc lies. Chances are if you're after one thing, you won't want to pay for a whole CD containing other material. Maybe if it was half the price, it might be worth adding to your collection of miscellaneous Amiga CDs, but at £15, you may only be tempted by the 'upgrade' offer for owners of the previous

Airsoft disc, which knocks £5 off the asking price - but only if you send the original disc back to Andreas. For more information on the Airsoft Softwair Gold Edition CD-ROM, visit Airsoft's web site at www.airsoftsoftwair.de **DS**

Software for hardware

- Website
- URL: www.l8r.net/install

There's a thriving market in used Amiga hardware, and in many cases, as with old Amiga hardware, the secondhand market is the only option. But while used hardware may work perfectly, many sellers have long since lost the original install disks. The hardware isn't much use without the software, but the opposite is also true, so there's usually no harm in providing this software for download, which is exactly what www.l8r.net does.

The "Installers Heaven" section provides install disks, usually as DMS archives, for a wide range of hardware. From commonplace items like SCSI controllers to the rarer components like the PAR board, if you have the hardware but not the software, look here. **NB**

Amiga Forums

- Website
- URL: www.amigaforums.org

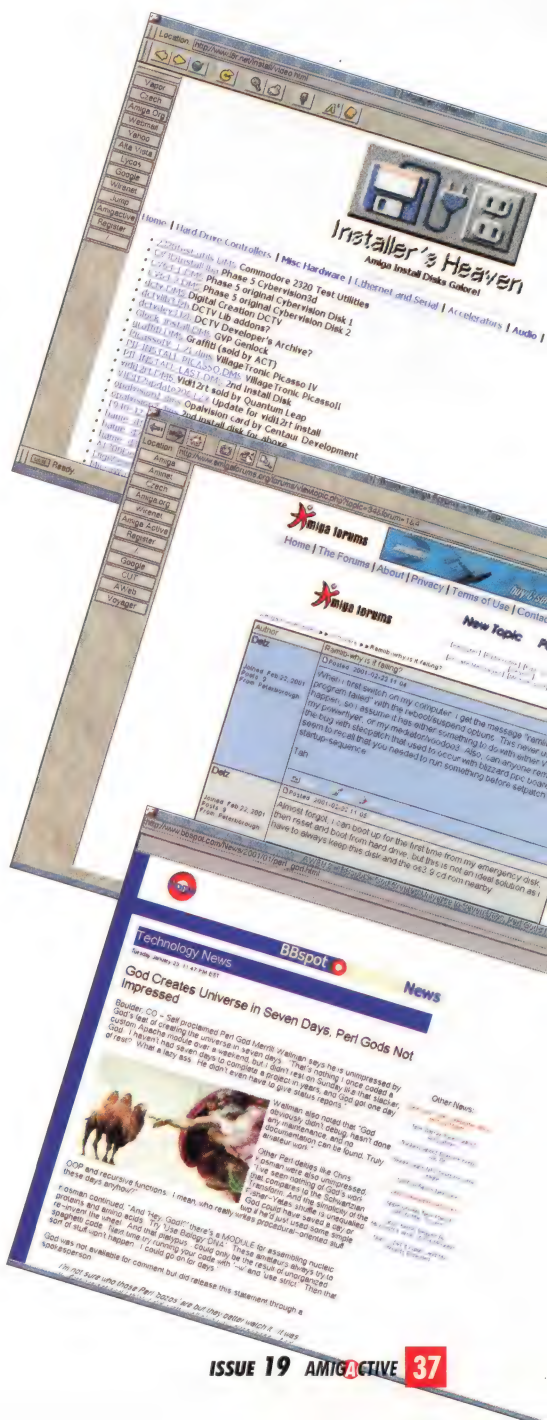
Amiga Forums is a joint venture between AmiBench, Amiga Resource and Striatum.org (a web hosting company). As the name implies, it provides a number of discussion forums on Amiga related topics. Classic and next generation Amigas are catered for with separate forums. Although many people prefer mailing lists for this type of online discussion, the web offers several advantages: there's no need to subscribe to each forum, and they can be accessed from anywhere - it doesn't matter where you are, as long as you have access to a browser.

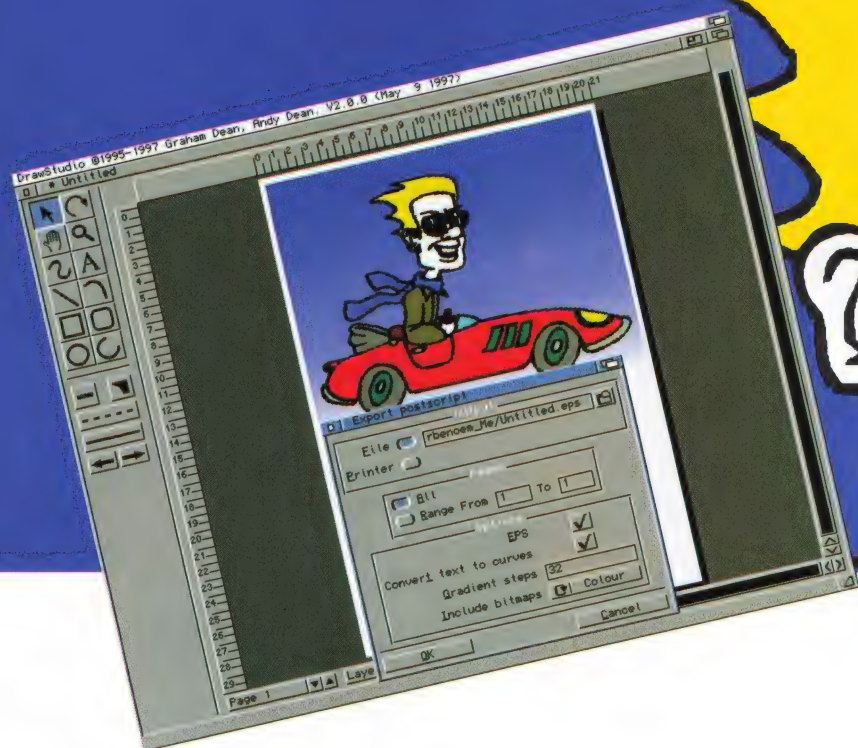
The layout of Amiga Forums is clean, simple, and loads quickly - with small colourful icons and smileys brightening up what would otherwise be screenfuls of drab text. **NB**

Read all ababt it!

- Website
- URL: <http://www.bbspot.com>

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part 3

DrawStudio tutorial

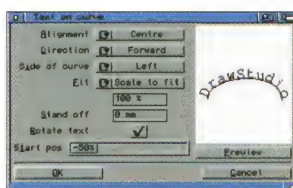
To finish our DrawStudio Masterclass, we take a look at a few of the program's more advanced features and show you what you can do with the images you've just created.

In this, the last part of our tour through DrawStudio, we will experiment with some new elements of the program and see how we can use file formats that DrawStudio doesn't support internally. To finish with, we will look at how you can use your DrawStudio creations with other Amiga software.

Text around curves

An often (ab)used trick to make pages look a bit more flashy is to include one or more texteffects - effects applied to a font to make it more decorative. In DrawStudio, you can let your texts follow any curve you draw, and you can even convert your characters to drawings, so that you can fill or distort them the same way you can any drawing.

Start by typing in your text, then draw a curve. Shift-select the text and the curve, and select the menu option "Text->Text on curve..." You will be presented with a requester (figure 1, left), where you can tweak all the settings of your texteffect. After every change you make, click the preview button and the preview will be updated. Once you are satisfied, click "OK". You can now delete the curve you used, and set the attributes to your liking.



Above: Fig 1.

"An often (ab)used trick to make pages look a bit more flashy..."

Attributes

In the first part of this series, we used the attributes requester to change the attributes of our shapes. This is a fine way if you need to change multiple attributes, or if you really do need a preview, but there is another, much faster way of setting attributes.

If you need more shapes with the same attributes, create one shape, and set the attributes for it. Now, with this shape selected, select the tool you need for drawing your next shape. Any shapes you draw will automatically take the attributes of the object you had selected when you picked your drawing tool.

If you only want to change the line width, select the line button. A requester will pop up, where you can pick the line width you need. Selecting the line colour, line style, fill colour or line endings works similarly (figure 2).



Above: Text effects in action.

Helpful scripts

If you ever have to make business presentations, you will be familiar with the need to create good-looking charts. There are a couple of ARexx scripts that help you create different kinds of charts for this purpose. All they do is read a text file with numbers, and create a corresponding drawing. The results can be imported in any drawing or word-processing program.

Using your work in other programs

Of course, you will want to use your work in other programs, be it for printing, presentation, web sites, or whatever it is you are creating. DrawStudio however, uses its own format in saving documents, and alas, this is a format that can't be read by many other programs. So we must do a little extra work in order to be able to use our DrawStudio creations in other software.

Things are really simple if you are using software and a printer that can deal with postscript or EPS files. PostScript is in effect a computer language, which tells certain printers how to print a document. It is very similar to the structured drawing format, as discussed in the first part of the series. To export as Postscript, select the Export->Postscript menu option, and in the requester, select a destination and .ps or .eps file (figure 3).

EPS (Encapsulated PostScript) has the advantage that it can be edited in programs that support it. In the export Postscript requester, you can select to change the text to curves. A postscript printer will only print the fonts it can find, and if you use a font it doesn't know, it will use a default font instead. This looks ugly in the best case, but if you convert the fonts to curves here, they are treated as drawings and will look exactly as you want them to look. The resulting file size however, will be larger.

So, the best thing to do would be to export all your work as Postscript files, right? Well, no. Not always. Postscript formats are great for drawings. Even gradients and bitmaps are supported by the Postscript formats in DrawStudio. But there are restrictions. First of all, bitmaps are supported by Postscript, but not if you have bitmap fills in your project. Furthermore, transparency is not supported by the Postscript formats, so, you can't use Postscript if your projects make use of either bitmap fills or transparency. Additionally, there is the problem of actually owning a Postscript capable printer - not many people do. There are ways around this, by using GhostScript together with TurboPrint, for instance.

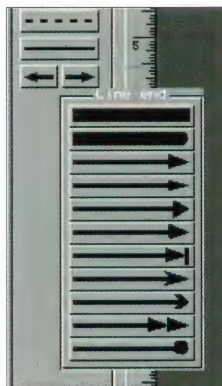
You can also save your work as bitmaps. The advantage of this is that you can load your bitmap files into any program you care to use. For web sites, you can export your drawing as GIF image, or you can choose to save your drawing as 24-bit image.

Transparency is only supported as long as you save your image in a 24-bit format.

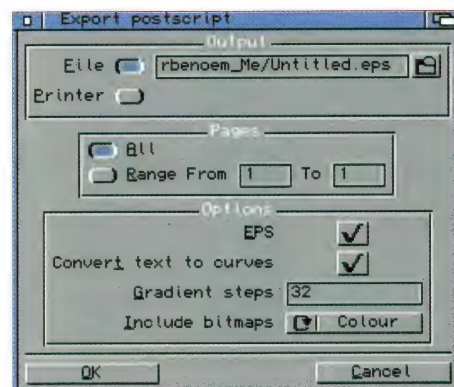
The disadvantage of course is that you will lose the special "drawing" information, so the "jaggies" we mentioned in the first part of this Masterclass will reappear on your printout. DrawStudio helps here, by giving you the opportunity to change the DPI (dots per inch) resolution of your bitmap. If you have a DPI that will match your printer's output, the resulting printout will be as smooth as a baby's... anyway, you get the picture!

When converting to bitmap, you need to keep some things in mind. First, the converting is a very memory hungry process. This problem is not made much better by the fact that the converting depends on chip-memory, so you can get "out of memory" messages with 128MB of FAST memory free!. The only solution is to set your Workbench to a two-colour screenmode (temporarily, of course), quit all other programs, and set DrawStudio to a 16-colour screenmode. It's annoying and ugly, for sure - but it can help.

However, with some clever thinking, you can still get the best results. If you need an image sized one inch square, draw it 10 inches by 10 inches. When exporting your drawing, think about your printer. Do you print at 720 DPI? If so, you can export the bitmap at 72 DPI.



Above: Fig 2.



Above: Fig 3.



- ▶ After you imported it into your favourite DTP program, scale it back to the 1-inch size you wanted, and it prints exactly as intended! What it all comes down to is that in the end, you need to carefully judge your printing needs and create your work accordingly.

Using MetaView

DrawStudio ships with a version of MetaView, a program designed to convert between different drawing formats. It would be wise to install and use this program. With it, you can use formats from other computers in DrawStudio, and files which originate from other Amiga programs. During the installation process of MetaView, the installer will ask you where you have DrawStudio installed, and will also ask for a couple of other programs, such as PageStream. It will then install ARexx scripts for the relevant programs, which let them load in any filetype supported by MetaView, and convert it to a format supported by the program.

For instance, you can run the script supplied by MetaView from DrawStudio, select a WMF file and it will be converted to a format supported by DrawStudio without you doing anything else. For the registered users of MetaView, there's even a special bonus: you can use the special datatypes to load .wmf files into any program that supports datatypes.



Above: MetaView is bundled with DrawStudio, and takes the hassle out of converting images between formats.

Converting images to dr2d format.

The common IFF format for structured drawings is DR2D. Although DrawStudio can load and import in DR2D, it can't save in this format. Thus, you will need to convert your files if you want to use them as structured drawings in another package. You can use MetaView for this purpose, or the program XTrace - a demo version of the latter also ships with DrawStudio. With it, you can trace your bitmaps with just a click of the button, turning them into structured drawings.

“...you need to carefully judge your printing needs...”

If you own PageStream, you can get the same results by using PageStream's own trace function. You may need to do a lot of cleaning up before you can use it, though. First of all, you need to dissolve the drawing in PageStream. After that, you will notice that the drawing still doesn't look anything like the original. It is covered with layers of white or black, so that you can't see most of your picture. You will need to manually delete all the extra parts, until you get the desired picture.



A faster way of doing things is to change the import script to load files as ILBM. Now you can use the PageStream trace function after loading the image, and hey presto! ...you have your structured drawing. There are various programs around to convert pictures to structured drawings, and it's all a matter of taste. I prefer PageStream for this, but you can always shop around and see which program suits you best.

Famous last words

As Jim Morrison once said, this is the end. Since a drawing program is for creative users (no, he didn't say this bit too - just that first sentence!), you will have to find out how to create your best art by just doing it. DrawStudio is a tool that will help you realize your dreams on paper, but like all software packages, it is no substitute for talent. And if you can't draw at all, you can always use some of the clipart that is available - either on the web or compilation CD-ROMs, and with a little experimentation, you should still make your work stand out from the crowd.

Dirk Harlaar **A**

DrawStudio Availability

If this series of Masterclasses has whetted your appetite and you'd like to dive in to DrawStudio for the first time, contact KickSoft, who are now the official distributors of the software.

www.kicksoft.co.uk



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ARexx & GoldED



GoldED is the next program to get the Active ARexx treatment

GoldED is an extremely versatile text editor. Every key and menu is configurable, as is each element of the GUI (Graphical User Interface). You can automatically load different configurations according to the type of file you are editing and it has a comprehensive set of internal commands with a macro recording system. With all this, you may wonder why you would want to control it from ARexx. The answer is that all of this is accessible through ARexx, so complete integration of GoldED with other programs is possible.

We'll be covering version 6 of GoldED here (the most recent version). Many of the techniques described will work with GoldED 5 and some with earlier versions. The only way to be sure is to try them. We would like to have been able to provide a demo version of GoldED on this month's AACD, but were unable to reach a satisfactory licensing agreement.

GoldED has more than a hundred internal commands, which can also be called from ARexx. These commands can be attached to buttons, menus or hotkeys as well as being used in scripts. The Macros menu in the default setup has an Execute Command option, where you can type in individual commands to check that you are using the correct syntax for the effect you need.

Formatting text

GoldED saves files with linefeeds at the end of each line. If you are writing text to be imported into a DTP program (like this copy I'm writing now), you only want linefeeds at the end of each paragraph. There is a NOLF argument

to the SAVE command which strips all single linefeeds, only leaving a line break where there is a blank line (e.g. between paragraphs), but this messes up lists or indented text. It also fails to take into account GoldED's line length limit of 999 characters. The ARexx alternative can deal with this ("Formatting text" boxout, right).

Boxout, section 1: The 'lock' command locks the GUI to prevent any user input altering the cursor position and mucking things up. Change the number on this line to your version of GoldED. Then we use the following command to move to column one, line one.

Boxout, section 2: Query is one of GoldED's most powerful commands. It allows you to extract information about the current document and many of GoldED's settings. With "buffer" it puts the contents of the current line into a variable.

"Query is one of GoldED's most powerful commands"

Boxout, section 3: For some reason, GoldED returns a single TAB character when a line is empty, so we strip it here, put the line we've just read into a another variable and read the next line.

Boxout, section 4: MatchPattern is a function from rexxdossupport.library. We use it to check whether the first character of the current line is either alphabetic, [a-z], numeric, [0-9] or one of " , & or <. If so, we assume that this line is a continuation of the previous one.

formatting text

```

1  /*Remove line feeds within blocks
   of text */
2  options results
   call addlib
   ('rexxdosupport.library',0,-30,0)
3  /* We'll be using the pattern
   matching function from this library
   later */
4  'lock release 6'
   'first'
   'goto top'
5  'query buffer var ThisLine'
6  do until LineNum = Totallines
   'down'
   PrevLine =strip(ThisLine,'T', '09'x)
   'query buffer var ThisLine'
7  if length(PrevLine) > 0 &
   MatchPattern('[a-z]|[0 9]
   [< >]',left(ThisLine,1),'Nocase')
   then do
8     if length(PrevLine) +
       length(ThisLine) < 1000 then do
9        'text t " "'
        'left'
        'left'
        'del'
        'first'
        'query buffer var ThisLine'
       end
      end
10 'query absline var LineNum'
    'query abslines var Totallines'
    end
11 'unlock'
    exit

```

GoldED has a maximum line length of 999 characters. We check we won't exceed that if we join the lines, then use the "text" command to add a space, cursor back twice and delete the linefeed at the end of the previous line before updating the ThisLine variable. If the line starts with any other character, such as a space, it is left alone.

Boxout, section 5: We use "query" again, this time to get the number of the current line and the total number of lines that are now in the document. This is used by the "do until" loop to check for the end of the document.

Boxout, section 6: Finally we unlock the GUI and exit. It's important to unlock it, otherwise you won't be able to use GoldED. If that happens, use Exchange to quit it (GoldED is a commodity). The exit command isn't strictly necessary, we are at the end of the script anyway, but it is a good habit to develop. At some time you'll want to add a function to the end of a script and the exit stops the script "falling through" to the function when it should be ending.

This is a good example of using the GoldED internal commands from an ARExx script, but it isn't particularly fast. The reason is that the GUI is constantly scrolling around when you move text, despite the "lock". An alternative approach would be to use the SAVE command to update the file on disk and the ABSNAME command to get the full path to the file. Then you could use the standard ARExx commands to open the file, read and join the lines and save it back to disk. Finally, use "OPEN AGAIN" to reload the file into GoldED. There's an example of this method also included on this month's AACD.

"Check that we have actually marked a block of text and call the error message function if we haven't..."

Copying between documents

GoldED has commands for copying and moving blocks of text within a documents, but to copy to another document you have to copy to the clipboard, switch to the other window and paste the text from the clipboard. Here is a quicker way ("Copying Between Documents" boxout on the next page).

Unlike the other scripts, this one takes an argument, the number of the window to copy to. I have the same script attached to Ctrl-1, Ctrl-2 etc. with only the window number changed.

Boxout, section 1: First, we read the number of the destination window from the argument passed to the script. GoldED numbers the windows 0,1,2... so we subtract 1 to let us use the more intuitive 1,2,3.

Boxout, section 2: Use Query to get the number of the current window. If it's the same as the destination window, we call a function to exit with an error message. We also check that the window we want to copy to actually exists.

Boxout, section 3: Check that we have actually marked a block of text and call the error message function if we haven't.

Boxout, section 4: Now we simply copy the text to the clipboard, switch to the new window and paste the clipboard in.

If IsMarked=3, the marked text was a column and we use GoldED's column paste function, otherwise we use a straightforward paste. You could make an alternate version of this to move rather than copy.

Boxout, section 5: This is our error message function. It uses GoldED's REQUEST command to display the message before exiting. We have to assign the result of the REQUEST to a variable, otherwise GoldED gives us a second requester for that.

Copying between documents

```

1 options results
  parse arg DestWin
  DestWin = DestWin - 1

2 'query ordinal var WindowNum
  if WindowNum = DestWin then call
    ExitMsg('You cannot copy to the
    same window')
  'query windows var WindowCount
  if DestWin >= WindowCount
    then call ExitMsg('You are trying
    to copy to a non-existent
    window')

3 'query block var IsMarked
  if IsMarked = 0 then call ExitMsg
    ('No text marked')

4 'clip copy
  'window ordinal' DestWin
  if IsMarked = 3 then 'clip vpaste'
  else 'clip paste'
  exit

5 ExitMsg:
  parse arg msg
  'request title "CopyToOther.rexx"
  body "msg" button "Doh!" var x'
  exit
  
```

Working with web pages

One popular use of GoldED is for editing web pages. The Webworld plugin and HTML keyword highlighting make web page creation so much easier. Being a text editor, GoldED isn't able to show you what the page will look like when displayed in a browser, which is where ARExx comes in.

This script ("Working with web pages" boxout, right) will save the current document, force a reload of the page in whichever browser is running and bring the first browser to the front. As with the other examples, the full

script is on the CD, but here are the highlights:

Boxout, section 1: The script is called from GoldED, so the ARExx port is already set to GoldED's. SAVE ALL saves all of the current document, as opposed to SAVE BLOCK that only saves the marked text.

Boxout, section 2: Show('P') returns a list of current ARExx ports, separated by spaces. By tagging spaces on the ends of the strings, we can search for " IBROWSE " instead of "IBROWSE" and avoid getting a spurious match on something like "IBROWSEPLUGIN".

Working with Web Pages ...just the highlights!

```

1 'SAVE ALL'

2 FoundBrowser = 0
  PortList = ' 'show('P')'

3 parse var PortList . 'AWEb.'
  n ' '
  if n > '' then do

4 address value 'AWEb.'n
  'RELOAD'

5 if FoundBrowser = 0 then do
  FoundBrowser = 1
  'SCREENTOFRONT'
  end

6 address
  end

7 if pos(' IBROWSE ',
  PortList) > 0 then do

8 address 'IBROWSE' 'RELOAD 1'

9 if FoundBrowser = 0 then do...

10 if pos(' VOYAGER ', PortList)
  > 0 then do
  address 'VOYAGER'
  if FoundBrowser = 0 then do
  FoundBrowser = 1
  'SCREENTOFRONT'
  end
  address
  end
  
```


Function libraries

ARexx has its own built in commands, and the application you are addressing has another set of commands. What happens if you want to do something that isn't covered by either? You could add a function to your script to do this, or you could hope someone has created the command you need in a library. To use functions from a library, you must initialise it with `addlib()`. For example, `rexsupport.library` is supplied with AmigaOS and is initialised with

```
call addlib('rexsupport.library',0,-30,0)
```

The library should be in `LIBS:`, check the documentation of other libraries for the numbers to use. If you use ARexx often, you may as well load the libraries from user-startup with the `rxlib` DOS command

```
rxlib rexsupport.library 0 -30 0
```

Once the library has been added to the library list with `addlib()` or `rxlib`, it is available to all ARexx scripts, until you next reboot.

We look for each browser in turn, reloading the page in each and bringing the screen containing the first to the front. Each of these blocks of code is self-contained, so you can switch the order if you like, to give your preferred browser priority.

AWeb has a separate ARexx port for each window. To avoid over-complicating things, we'll assume that the page you are editing is in the first numbered window of each browser. However, it's possible to have AWEB.2 open while AWEB.1 doesn't exist, so we use the "parse var" statement to extract the number of the first AWeb port in the list.

Boxout, section 3: Parsing strings is a powerful feature of ARexx and works something like this:

```
parse var Variable variable
separator variable separator
variable etc...
```

The first variable contains the string to parse. This string is split into separate variables, at the separators given. "." is a special placeholder variable, it takes a value and discards it. The parse statement above searches the list of ARexx ports for the first occurrence of "AWEB.", everything before this goes to ".", it's discarded. The variable "n" takes everything from after "AWEB." to the next separator, a space, everything after that is also discarded. In other words, the parse statement scans the string for "AWEB." and puts the number immediately after it into n.

Parse has a lot more options, such as breaking a string at specific positions, but these are beyond the scope of this article. Have a look in the ARexxGuide on the CD for more details.

"The Webworld plugin and HTML keyword highlighting make web page creation so much easier..."

Boxout, section 4: Having found the port, we make it current with "address value". We cannot simply use "address 'AWEB.n'" because address expects a literal string, not a variable. Then we send a RELOAD command.

Boxout, section 5: If we haven't found another browser previously, we send the SCREENTOFront command so we can actually see the revised page.

Boxout, section 6: Address with no parameters sets the ARexx port back to the one in use before the previous address command, GoldEd's port.

Boxout, section 7: Searching for IBrowse's port is easier, because there is only one port for all windows.

Boxout, section 8: Instead of having the window number in the port name, we have to add it to the command.

Boxout, section 9: As before, if this is the first browser found, bring its screen to the front.

Boxout, section 10: Finding Voyager's port is similar to IBrowse, but Voyager has no reload command, you'll have to press the button yourself. The RELOAD command is broken in IBrowse 2.2. It worked in older versions and should work again in 2.3

If you are running GoldED and your browser on the same screen, you can remove the SCREENTOFront commands. In the AWeb section, replace it with "WINDOW TOFront" (note the space).

Using the examples

While these examples are directed at GoldED, many of the techniques covered here work with other programs. Parse, in particular, can be used whenever you want to extract information from a string of text, and function libraries like `rexsupport.library` are invaluable.

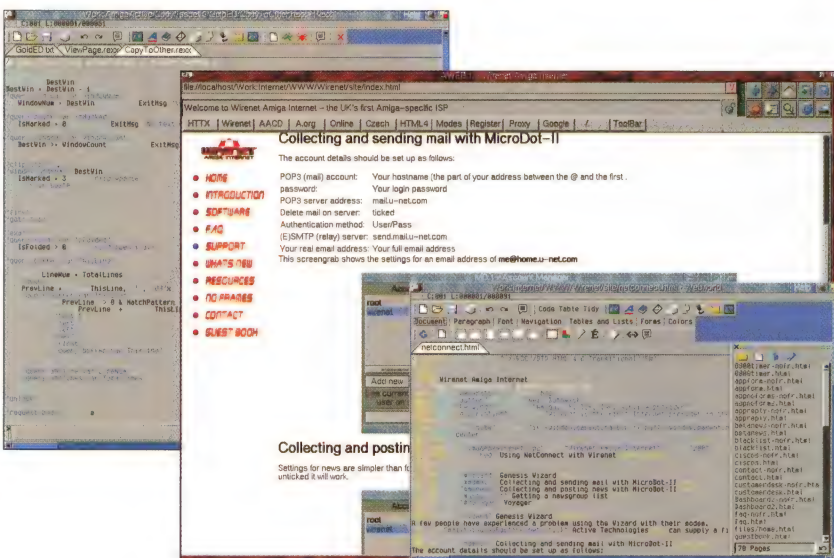
Neil Bothwick 

Text Editors

A text editor is a keyboard driven program. Menus and buttons are useful, but attaching commands and scripts to keys is much faster.

Altering the action of any key in GoldEd is easy. Press the right mouse button over the text area, select "Keyboard" from the "Filetype Settings" menu. Below the list of keys is a row of buttons, press the rightmost ("+") and then the key combination you want to edit. The relevant keycode will be highlighted and you can edit it with a double-click. Any combination of internal commands, scripts and plain text can be used.

Click on "OK" followed by "OK" when you're done to try out your settings. You haven't changed the configuration on disk yet, so you can experiment freely without breaking your existing setup. Adding menu items is done in a similar fashion.





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Yes, you read that correctly. No, it's not a crude attempt at an April Fool. We're constantly asked when the first few issues of *Amiga Active* will be available to buy. It seems not a day goes by when it's not demanded of us that we round up our first six issues and offer them on a shiny platter as PDFs. "Aren't you going to reprint them?" you ask, impatiently. "No," we say, sternly. "It would cost far too much."

As the months have passed, we have grown weary of your constant demands for back issues, so we're now pulling together such a disc, which will be offered to the masses from next month. But complete the survey below and you could be the lucky punter who strolls down the stairs one morning in the near future and finds six issues of *Amiga Active* on CD waiting patiently on your doormat. You lucky thing.

We'd like to know what you think about our Masterclasses. Have we got the balance of tutorials right in each issue? What topics would you like to see us cover in the future? Fill in the blanks below, then cut out or photocopy and post your completed form to us at *Amiga Active Magazine*, Systems House, 14 Victoria Road, BH1 4RR. Give us your address and you'll be put into the draw to receive a copy of our back-issues collection CD, volume one. If you've already filled this survey in on our web site, you'll be put into the draw too, so you don't need to fill this survey in again...

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	Yes	No	Undecided
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2. If we were to run three new tutorials in the next issue of the magazine, what would you like them to be about? You can either specify the name of the program that you'd like to know better, or just the topic (like those above) if you're not too concerned about a particular program.

First Choice:

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3. In the past, we have tried to stick to tutorials spanning no more than three issues of *Amiga Active*, to stop ourselves falling into the trap of dedicating too much space to one particular topic. Do you think we made the right decision, or would you like to see bigger multi-part tutorials in future?

- ☐ You're right - Three parts to a tutorial is enough!
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Dexter and the Chickens!

Amiga Active talks to Paul Burkey of e.p.i.c. Interactive Software about developing for multiple platforms and shooting the flying things.



When Paul Burkey began work on the Amiga port of *Simon The Sorcerer II*, he also started working on another project which would ultimately help in porting games to multiple platforms, including Macintosh, PC and Amiga.

Paul has effectively written a custom API which takes care of compiling the different aspects of a game - sound, graphics, networking and so on - to different systems. Called Dexter, Paul's API makes the task of porting a game to multiple platforms a relatively simple one. All that is necessary is to

on a German title which is apparently quite popular in its home country. Paul suggested that the game, originally being developed in Germany by a business acquaintance of e.p.i.c. Interactive, could be rewritten for Dexter, in C++. It took him two days - to do both Mac and PC versions.

"Since then we've just added the different features, in-game objects and so on. The game has evolved as rapidly as it started," explains Paul, happily.

As for the game itself: chickens fly backwards and forwards (no, they don't actually fly backwards) across a landscape - currently comprising trees and mountains, lakes and so on - and you shoot them. Sounds simple, but there's a little more to it than that. The landscape is made up of several layers, and employs parallax scrolling so that when you move your cursor over to the left or right edge of the window, the scenery scrolls accordingly, but the foreground layers scroll quicker than the background.

The effect is quite delightful: being able to see a chicken fly behind a tree, then whizz across to effectively change your viewpoint and see the chicken again is curiously addictive. So much so that you find yourself waiting for a chicken to disappear behind the scenery before going to shoot, just so you can admire the parallax scrolling.

Dexter and Amiga

The game, however, is still in its early stages, and currently only exists for Windows and Mac - thanks to Dexter, of course. There are plans to release the game for the Amiga if e.p.i.c. see sufficient demand, in which case it will be targeted at PowerPC and graphics card equipped systems. e.p.i.c.'s version of the German game will apparently benefit from much better graphics than the original, *"and much better programming, obviously,"* adds Paul, cheekily.

Dexter, meanwhile, has already started settling in to a new home... on the AmigaDE. *"We certainly want to get all our stuff working on AmigaDE,"* says Paul, who estimates that porting the Dexter API to other platforms could be achieved in under a month.

David Stroud **A**

"A case in point is the chicken shooting game..."



take the source code to, say, a Windows game and re-work the code to use Dexter, rather than having to re-write the initial code for several platforms, one at a time. Then, once the code is modified to use this new API, compiling for different platforms is a much simpler and less time-consuming task.

Chicken!

A case in point is the chicken shooting game, pictured here, which Paul likes to call *"Shoot the flying things"* because he can't pronounce its proper title. We doubt you can pronounce *Federviehjagd* either. No, didn't think so. Anyway, the Chicken Shooting Game is based



In development for over two years. First previewed in Amiga Active issue 10. Nine months on, and we've finally been let out into the streets of Freedom City. We've felt the tension. We've smelt the burning rubber. We've tasted...

Payback!

We first previewed this game when it was entering the latter stages of development back in July of last year. Even then, Payback was looking good.

By taking the Grand Theft Auto (GTA) mould and re-shaping it for the Amiga, Apex Designs set themselves the unenviable task of improving on every aspect of their inspiration and giving Amiga gamers something new to feast their eyes on. No mean feat, when you consider that creating Payback has taken a small handful of people, with James Daniels at the helm, little more than two years. So, now that it's here, just how sweet does Payback taste?

To find out, you'll need to steady your twitchy trigger finger for a moment longer whilst you install the game from CD-ROM to a hard drive with around 15MB free. Next, you'll need to run the Payback Setup program and choose a screenmode (see boxout), before double-clicking the Payback icon. A short rendered intro greets you - not the best example of its kind, but it finishes with a big explosion, which is always a bonus.

Trigger finger starting to twitch once more, you open the CD insert which contains (in no less than ten languages) brief installation instructions and a summary of the in-game control options. To guide your character

through the various cities, you can use a keyboard, a joystick (in combination with the keyboard, which is used to select weapons and jump in and out of cars), a CD32 joystick or a Playstation controller (if you have a PSXPort to plug it in to - see boxout).

There's also a paragraph about the law - informing you that your antics will inevitably attract the attention of the cops. If you didn't know that already, some would look at you as if you'd just beamed down from Mars, questioning your reason for buying the game (perhaps you wanted to stroll around the parks and admire the scenery?), but it's there in black and white - you've been warned. And so it begins.



"The phones are ringing and nobody seems to be answering them..."

Below: Either those policemen are dying for an ice-cream, or I did something wrong...



Drive to survive

You begin your quest to become master crime lord in the peaceful surroundings of a park in Freedom City. The camera zooms into the map from the level selection screen to show your character standing amid a smattering of trees, ponds and flowers which punctuate the well-tended grass.

The soundtrack kicks in (assuming you have the CD in your drive) and your foot starts tapping. Doing your bit to get into the game, you mentally adopt a 'gangster style' attitude (difficult when sitting on a beanbag with a

cup of coffee, admittedly) and survey your surroundings. But there's no time for soaking up the scenery: the phones are ringing and nobody seems to be answering them. It'll probably be for you, then.

Instructions pop up at the bottom of the screen, telling you that you need to acquire 1,500,000 points to complete this first level and prompt you - as if required - to go to the phones for missions. You walk over, feet rustling through the grass, and answer one of them to be given your first assignment.



Left: Stop admiring the scenery and answer those phones!

Below: On your way to your first mission.

Bottom: Shoot dummies. Get points.



The first two missions introduce you to the main skills you'll need to survive in the game - driving at speed, avoiding other cars, buildings, people (optional) and lamp posts, and blowing things up. Several minutes later, it's no more Mr. Nice Guy. Training is brief and to the point. If you haven't got the hang of driving and shooting after the first two missions, chances are you'll be restarting the game a few minutes later after failing to rack up a decent amount of points, so make them count.

cutting across the hovering camera lens, which tracks you closely as you continue walking.

Scanning the scenery, you notice the odd pedestrian walking somewhat erratically, looking like they don't really know where they want to go, just like in real life. Cars occasionally pass you, stopping only to honk their horns if you get in their way.

"Impatient so-and-so," you think to yourself (just like in real life). Then you notice the car. It looks quite sporty. "I'll teach you for being so damned impatient," you mutter, pressing a button. "Get out. I need your car."

Walking over to the driver's side of the vehicle, you open the door (which is on the right - the 'block' street layout of Payback's cities may suggest America, but

Super Screenmodes?

Despite already being highly optimized, Payback requires some decent hardware in order to deliver a smooth performance. We tested the game on a couple of systems: An A1200 with BPPC ('040/25), 96MB Fast RAM and a BVision graphics card, and another A1200 with an Apollo '060/50 accelerator and Mediator/Voodoo3.

We tried out several resolutions on each system to see which was best. On the '040/25, playability suffered even at the lowest 320x240 resolution, whilst on the '060/50, a resolution of 480x384 (created afresh with the Picasso96Mode utility) ran the game quite smoothly - not perfectly fluid, but not far off. Graphics looked much better (on a monitor) when rendered at 480x384, although the game flew along quite beautifully at the lower resolution.

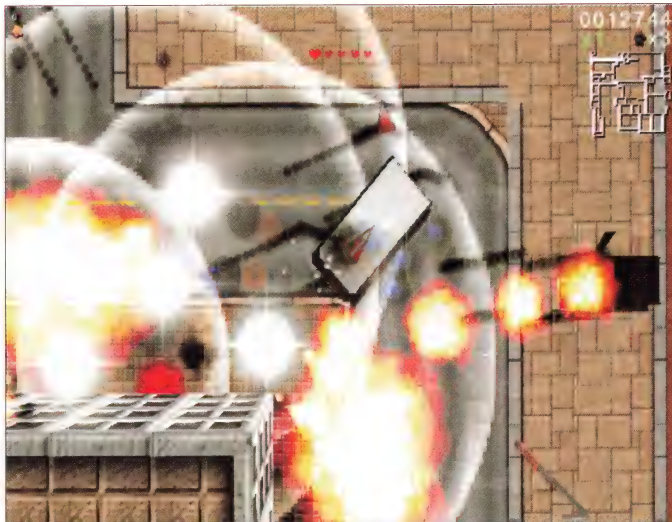


Gone in 60 seconds

Walking out of the park after completing the first two missions and receiving your third briefing, you move from lush grass to concrete pavement, the sound of your footsteps changing accordingly. Walking down the road, you pass a pelican crossing. Making a mental note to avoid jokes about pelicans crossing the road, you stand for a moment and admire the flashing yellow beacons illuminating the screen and sending lens flares

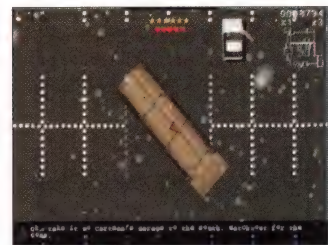


Above: I'm flying! But I'm not going to tell you how I managed this. You'll have to play the game yourself to find out.



Right: My ice-cream van laughs in the face of multiple explosions, then chugs away extremely slowly with thick black smoke billowing from the engine...

Below: Hey, you didn't say anything about maximum police attention before I stepped into this stupid truck! Oh well, here goes nothing. Coming through!



you drive on the left, as in Britain - a curious mix, but one that seems to work quite nicely, helping to give the game its own unique feel). It is here, however, that the close similarity to real life comes to an abrupt halt.

Pulling the driver unceremoniously out of his seat and dumping his stunned body in the middle of the road, you step in and floor it. Depending on your choice of vehicle, you'll either chug embarrassingly slowly down the road or be pinned back in your seat as your right foot slaps on the gas and the camera zooms out to a height which affords you at least a brief warning of buildings, other vehicles, bends in the road and lampposts. In other words, the

stuff that slows you down (pedestrians don't - if it wasn't for the spray of blood and the prompt attention of the police to any hit'n'run incidents, you'd probably forget about them altogether).

Really realistic

Pulling on the handbrake and sliding your car around corners, you soon learn to appreciate the handling characteristics of the different vehicles available in the game. Small cars like the Pug will nip through alleyways with ease, but for better performance, try slipping into the bucket seats of a Hotrod or Vapour, both of which accelerate with a more satisfying urgency. Meanwhile, for comedy value, hop out of your sports car and into a passing ice-cream van.

"It is here, however, that the close similarity to real life comes to an abrupt halt..."

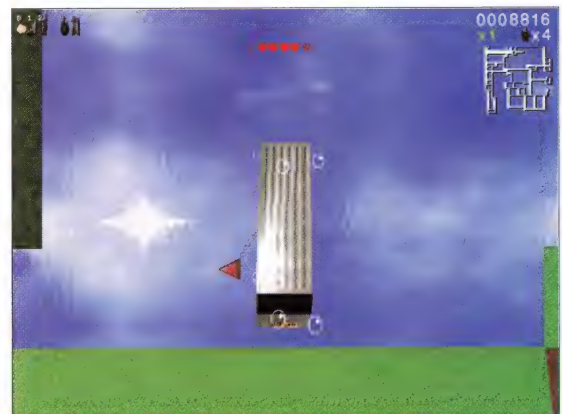
Driving at the road-bound confectioner's equivalent of breakneck speed, admire the way it lurches around corners, tipping on its suspension.

Imagine the packets of milk chocolate flakes being scattered all over the van's floor. Still, not to worry - it isn't as if you're about to park up and attract passing pedestrians with your tinkly tunes to buy ice-creams (mental note: good notion for the sequel).

Having just alluded to the realistic elements in Payback, we

should take a moment to elaborate. Everything is in 3D - not a two-dimensional sprite in sight. The buildings, cars, people, trees; even the bullets you fire from guns. Lampposts angle themselves appropriately over the road as the camera pans across the streets; vehicles tip sideways as you force them flat out around corners. In terms of a driving game, think 2D gameplay in a 3D environment. Beautiful.

Another refreshing aspect of Payback is the weather. In



Above: Realtime shadows, thanks to Payback's 3D engine. • Although the 3D isn't spot-on. Is that a car or a hovercraft? • Aw, my bus! If you get out in time, you can swim for shore.



For maximum playability, invest in a PSXPort and a Playstation joypad. Offering ultimate control, this is absolutely the best way to enjoy Payback. Run, shoot, cycle through your available arsenal of weaponry and drive like a lunatic (the separate 'brake only' shoulder button, R2, is a bonus for handbrake turns), all without touching the keyboard. Fantastic. £24.95 from Blittersoft (01908 225454).



Above: Busman's holiday... on ice!

Corona City, rain falls and splashes on the ground as you walk around outside in the dark. Oh yes, did we mention the third city is a night-time setting? It's harder to see the people (including the police when they're on foot), the vehicles all have their headlights on and the lampposts provide the only street lighting. Very atmospheric, and quite unnerving, as this city - unlike those before it - doesn't come with a map in the top right-hand corner of the screen. Explore and discover.

Los Francos City, meanwhile, is a wintry setting. Snow falls steadily past the camera before melting into the already snow-covered scenery. You leave footprints as you walk, cars won't accelerate to their top speed when they go off-road into the deeper covering of white powder (but they sure do slide nicely, especially on ice!) and there are even snowmen - although driving into them doesn't give you any extra points or a 'slush bonus', disappointingly. Other bonuses are available though, including Cop Killer Bonus and Irony



Above: The rain it falleth on the just and the unjust...

Bonus, the latter involving ice-cream vans. It's certainly good to see a healthy dose of imagination going into Payback's gameplay.

On a Mission

Talking of gameplay: amid the scenery and realistic settings, you could quite happily forget about the missions. Indeed, you don't actually have to complete any, thanks to the non-linearity of Payback which just requires you to reach a certain number of points to complete a level.

Points can be acquired for running people over, blowing up cars and so on... but it's completing missions that scores you the biggest points and gets your adrenaline flowing. Add to this the fact that you have three lives, and you can't save your game in the middle of a level, and missions become the easiest route to progressing in the game.

So what are the missions like? Well, there are several of the relatively simple 'go here, kill x people' variety, but most briefings



Above: When vans explode! Chasing police cars feel the blast. Toasted!

"...it's completing missions that scores you the biggest points and gets your adrenaline flowing..."

are more imaginative. There are races that test your driving skills, hijacks that require a good knowledge of the city to evade the cops, break-ins, break-outs, escorts and a good assortment of explosion-heavy 'blow-em-all-to-hell' missions where you get to try out the different weapons to their full potential.

Weapons include the humble pistol, shotgun (both complete with muzzle flashes when fired) and grenades, not to mention the impressively destructive flame-thrower and several others, which we're not going to tell you about here, because we wouldn't want to spoil any surprises!

Surprises, indeed, are few in Payback - or at least they are, if you've already played Grand Theft Auto (or in my case, GTA2). "Kill Frenzy" moments, for example, where your target is to kill x people or blow up x cars within a certain time for gratuitous bonus points certainly aren't as frequent, but there are some original elements.

For example, you can use boats and even helicopters, which really pushes home the 3D nature of Payback, as you can fly over the entire city and familiarise yourself with its layout much quicker than you could in even the fastest rocket-powered car.

Speed Kills?

Payback isn't the quickest game ever created for classic Amiga systems - but that's no real surprise when you consider the mathematically intensive routines for Artificial Intelligence (AI) and physics. It's not the screen updating routines which are slow, it's the number-crunching that goes on behind the scenes which holds the game back on 68k systems.

To prove this point, on an '040/25 at 320x240, the game is just about playable, running at an average speed of around 10fps (frames per second). But, if you increase the resolution right up - we tried it at an eye-watering 1152x900, which looks the business - it doesn't slow down as much as you might expect, still managing to update at a couple of frames per second.

For comparison, consider another 3D game. ClickBOOM's 68k port of Quake managed 2fps at 800x600... sure, Quake is 'more 3D' than Payback, but that was on an '060/50, not an '040/25.

However, those of you with '040 68k CPUs on your PPC cards needn't fret, because James Daniels plans to release a free PowerPC update as soon as he can get his hands on another

PPC card for his A1200 (his current board is still in for repair). When he does get a PowerPC card, expect to be rubbing those hands with glee even more, because in James' own words: "the game will absolutely fly along on even the slowest PowerPC accelerator."

PaybackPPC on a graphics card? Someone get that man a PPC accelerator, dammit!

Right: Well, that's certainly one way to paint the town red...



Fire in the Hole!

The top three explosive moments you're likely to encounter in Payback.

- 3 Find a bus, or a big lorry. Park it at an angle across a busy road junction. Wait for inevitable traffic congestion. Use pistol/shotgun to lightly toast surrounding vehicles. Garnish with a grenade.
- 2 On the last level, one of your missions involves a dozen crates full of grenades, the roof of a building, and the police being unable to find their way up to arrest you once they get out of their panda cars.
- 1 In Los Francos city, you get to use a remote bomb to demolish a hotel. Plant the bomb, then run away - you'll still see the destruction - the camera will happily switch back to a close up when you hit the button. Turn the sound down or you'll wake the neighbours.

The good, the bad...

Payback is much more than just 'Grand Theft Auto on the Amiga'. Sure, some of the elements that made GTA a classic aren't as well executed here - your character won't jump across cars if you try getting in from the passenger side, nor will he walk around the vehicle to the driver's door, so you have to guide him yourself - tricky when time is of the essence.

Police interest in you is represented by stars at the top of the screen - just tapping another car when driving will give you two stars, which is perhaps a little unnecessary. Reach three stars, and the cops will start chasing you - semi-intelligently, it has to be said. Hit six and all hell breaks loose - you'll have to smash through roadblocks and find somewhere safe (like the roof of a building which police seem unable to get to) to wait for the heat to die down: as soon as you're back to two stars again, you won't be hounded.

The police, however, as well as being afraid of roofs, don't seem to want to get back in their cars once they've alighted, so you can slow down when you're being chased, wait for them to get out of their cars, then floor it again for a quick and easy escape. To compensate, however, they won't apply the breaks themselves if chasing you whilst you're on foot. It seems they're above the law when it comes to flattening pedestrians. So if you have to run, do it down an alleyway.

There's certainly not as much going on in Payback's cities as there was in GTA's (the cities in Payback, by the way, are a quarter the size: not too small, but certainly not vast). There are fewer cars and hardly any pedestrians - which coincidentally gives a distinctly British rather than American feel to the game - and there are certainly a few things which could do with tweaking (like having your character face in the direction your car's pointing when you get



out, so you can continue to run in the same direction - currently, you always get out facing away from the car, which is frustrating at the best of times). These are minor flaws, however, and all things considered, Apex Designs have done a wonderful job in creating a game of a type not seen before on the Amiga.

Payback's longevity, meanwhile, is all but assured: with time limits on each level if you want to achieve Gold status, you'll find yourself going back to complete levels in record time, and with the variety of missions available, you won't get bored easily. There's also a multi-player mode (for up to four people on the same machine; no network gaming as yet), separate multi-player maps and even a map editor so you can create your own.

For what could have turned out as a straightforward clone of Grand Theft Auto, Payback has good doses of both originality and humour that will keep you smiling, grinning - and grimacing - throughout. The game supports AGA and graphics cards, has stereo sound (accurate simulation of the Doppler effect is a nice touch), a professional soundtrack - which does a great job of reflecting the mood of the game -

and to top it off, it's all in 3D and will run at resolutions up to 1280x1024. With a free PowerPC update planned, this is a game that can only get better with age. Apex have already finished a first update (among other things, adding a 'Rampage' mode, allowing you to play cities with configurable police aggression and without missions) and James Daniels is keen to develop the game further. So, even if it isn't an original game in its own right, why shouldn't Payback be as successful on the Amiga as GTA was on the Playstation?

David Stroud **A**

Payback

SYSTEM: 68020, 16MB RAM, 20MB hard drive space, AGA or graphics card, CD-ROM. We recommend an '060, until the free PPC update is released.

SUMMARY: An excellent blend of originality, humour and out-and-out destruction. When we see it running on a PowerPC, you won't see us for dust!



480x384 on an '060 system not as smooth as you'd like? 320x240 too blocky? Compensate by running Payback at the lower resolution, but in PAL, so you can output it to a big TV. Because a television display isn't as crisp as a monitor's, the graphics are nicely 'antialiased', and you soon forget about the low resolution. Oh, and those explosions on a big screen? Immense!

✉ Your chance to pester the Editor! Write to: Amiga Active Magazine, 3-11 Spring Road, Bournemouth BH1 4PZ. Or, if

InterActive



Meditations

Dear Amiga Active,

It seems that loads of things are happening in the Amiga universe! Rumours of a PDA partner for Amiga, AmigaOnes, the Amiga One 1200/4000 upgrades... everyone's hanging around in suspense! We all want to carry on participating in Amiga. I've been an avid Amiga nut for 10 years! Just what is going on we'll all know in due course.

"There's sumthin' acommen, I can feel it in my bones!"

There's sumthin' acommen, I can feel it in my bones! But here I am with my Voodoo3 3000 PCI board still boxed and shiny, the Mediator PCI ZIV board and SharkPPC card on order, and I'm thinking "hang on, is this the right way?" I've just read an article from Fleecy on Amiga Flame's site about the Alt.WoA discussing the upcoming AmigaOne1200.

It seems just as I think "Okay, let's keep enjoying Amiga and upgrade in the PCI Mediator direction," I'm being tugged back

More technical articles, or less? A topic of heated discussion in this month's Amiga Active postbag...

wondering, "Do I cancel my order with the guys at Blittersoft? Do I hang on, then ditch the lot for an AmigaOne1200? Will the Mediator way lead to parallel joy with the AmigaOnes or to desolation? Does the available software favour either of these ways?"

The new era is dawning; I can almost feel the first rays peeking over the horizon as I stand here, gibbering in indecision. I'm feeling my imminent spending on my trusty old A1200 hybrid Tower, PIV, ZIV, '060/50 etc. is going to be the most important upgrade/addition since CD-ROM. Us wondering souls without user groups amidst PC users just want to feel at one with the Amiverse! So like the pilgrim seeking enlightenment we bow and scrape at Amiga Active's mighty feet and seek wisdom in its tomes of knowledge.

Yours Humbly as I prostrate my self (hope I used the right word!)
Phil (lost & wandering soul) Bennett



Above: Is Voodoo good for wandering souls?

You and everyone else, Phil. Our mailbox is bulging with questions of this type. There's no reason we are aware of why a Mediator and SharkPPC system shouldn't reach AmigaOne specs, so there's no reason why it shouldn't be fine as an alternative to the "official" AmigaOne - but we can't know for sure until we see it.

We can't compare a product that isn't out (the Shark) with another that isn't out (the AmigaOne) or tell you which is better at running a piece of software which isn't out (the new AmigaOS)! All that we can promise is that we will investigate these questions thoroughly and let you all know when the details have all been finalised. You may get up now. Oh, and don't bow, just call us 'Sir'.

54 Interactive

What have we done wrong? What are we doing right? Tell us!

58 Guru

Speak to the Guru if you've got a problem with your Amiga.

60 Online

If it involves Amigas being connected to stuff, it'll probably be covered here.

62 Next Month

It's going to be a good one, if what we've heard is anything to go by...

64 Back Pager

The Bitmap Bonus this month... a new page with a slightly nostalgic feel.

you enjoy the pleasures of being online, send your e-mails to us at interactive@amigactive.com



Bring back RetroActive!

Surely the Amiga is all about nostalgia! At least for the moment.

Chris Ferrell

In that case, you may want to flick to page 64 for some new style nostalgic back page antics. I wouldn't entirely agree that the Amiga is all about nostalgia, but it certainly has its place. Our writers were getting tired of the RetroActive formula, so now we have a new one. Enjoy!



3.1415926535897932...

Dear AA,

Love the mag! You are the life raft for many Amiga users. If there were no magazine there would be a mass exodus of users to other platforms. I wonder if Amiga Inc. know this?

Anyway, could you add a bit more 'tech' into your articles, the writing sometimes is really witty and thought provoking, but is let down by hard facts e.g. the Voodoo card comes in several flavours: SGRAM, SDRAM and so on. What can I use with my/your setup?

P.S. By the way, I am not a rocket scientist, only a cosmologist.

Pat Leckie



3 and a bit

Dear Amiga Active,

First off: good mag, up to a point. A few gripes, but not many. Issue 17 writeup on Amiga emulators for PCs. Two writeups on alternative OS's. This is an AMIGA mag? Fair enough, some Amiga users will have an interest in the subjects you covered, but these three took up ten pages.

Then look at page eleven. News in BRIEF & Product Watch. Ten items all squeezed onto one page. Surely you could have expanded these stories and used some of the ten pages given up to non Amiga products?

Another gripe I have, but AA is not alone in this - previous Amiga

mags are guilty of it as well: You seem to think we are all experts in everything Amiga. I myself have very limited computer experience and I'm sure I am not the only AA reader like this. So how about some "How To" classes, how to fit hard drives or CD-ROMs etc. Or even get together with your advertisers and make a one-off mag just on upgrading your Amiga and how to do it. Just an idea.

I might have gone on a bit but I will finish by saying that apart from the above gripes, Amiga Active is a very good quality produced mag & CD. The CD is even better now I am running OS3.9.

R. Bishop

These two letters are typical of our postbag. Half the mail we gets wants us to be more technical, the other half wants us to be less technical. We're the only game in town, which means that at the moment we have to cover as wide a variety of tastes and requirements as possible.

We try to avoid making any major feature too technical to make them accessible to as many readers as possible; on the other hand, we realise that our readers are, on average, an unusually technically sophisticated bunch and this also needs to be reflected.

You can't please everyone all the time, but we will be trying to please everyone a little bit more by introducing single page mini-masterclasses on a wide range of topics. These will allow us to **a)** do the occasional beginner's guide to help get our less techy readers up to speed without making the more techy types worry too much about wasted space, and **b)** run the odd techy piece that beginners will not resent. If anyone else has any suggestions on how to accomodate everyone, please let us know!



PdfActive?

Dear Amiga Active,

This is a great idea. No matter how fanatical you are about all things Amiga, there comes a time when the 'invaluable' magazine collection magically turns into 'clutter'. Having older issues

Eeee, it were a good'un!

AA **Hi Amiga Active, I'd like to say I really enjoy the mag. Keep up the good work!**

I'd also like to say how much I enjoyed the Amiga show "oop North" - the Alt.WoA hosted by the Huddersfield Amiga User Group. It was estimated that there were between 400-500 visitors throughout the afternoon, and it was quite nice to see a fair amount of younger people, as well as us 'oldies'.

Fleecy Moss and Alan Redhouse of Eyetech were quite upbeat about the forthcoming AmigaDE and AmigaOne at the talk afterwards. As Alan said, he's a businessman, and he's invested good money in it. They're not doing it out of nostalgia.

Anyway, full marks to HAUG for getting the show off the ground, and full marks to the companies and usergroups who supported the event.

Fred Booth

Well said, Fred. We've heard nothing but praise for the HAUG lads - and they deserve it. Our Publisher, however - although he enjoyed the show - would like to reserve a spot next to the radiator for next year's event, if the organisers could make a note. Oh, and Neil won't appreciate being referred to as an 'oldie'!

"...there comes a time when the 'invaluable' magazine collection magically turns into 'clutter'"

available on CD's would, in my mind, be a masterstroke. Embed the contents into the AACD indexing system (for easy article searching) and you'd have a killer cover CD.

On a slightly OT note, I for one have relied heavily on the 'Search' facility provided. To be able to scan through the entire AACD collection

LETTERS TO THE EDITOR

► **in one hit makes things so simple (and yes I do use the similar facilities for searching old AF and CU cover CD's).**

I cannot believe that no PC magazine that I've ever seen has anything like this. Trying to find a program on a PC CD-ROM is a dreadful job, searching every disk individually - eurgh!

John Davis

Amiga magazine CDs have had a long time to develop and mature, and a lot of thought has gone into their design. Our CD compiler, Neil Bothwick, is easily the most experienced in the business, and many other people have had input into the honing of the format over the years.

The sheer controllability the AmigaOS grants us is no small help in this matter either - a lot of what we can do with our cover CDs would be next to impossible with Windows. We're just glad you like them!

We have often discussed the notion of producing CD back issues. You may even get a nice surprise if you have a flick through the rest of this issue...



The wait is over?

Hi Guys,

Perhaps some of you saw the two-page spread in the Micromart issue dated 1st March. It was interesting for two reasons - the letter that won the free headset was an opinionated berk trying to tell everybody that the Amiga is dead and how wonderful are all things

"It very much looks as if the long wait is nearly over!"

PC - the Micromart editorial team obviously included it to generate further discussion. At the same time a very interesting reprint article appeared on the Czech news-site: [www.spectrum.ieee.org/WEBONLY/publicfeature/ mar01/amig.html](http://www.spectrum.ieee.org/WEBONLY/publicfeature/mar01/amig.html). This followed what we already know from Fleecy Moss' words on the HAUG show site: www.alt-woa.org.

The only thing stopping all the news in detail was the promise of an announcement at the St. Louis show at the end of March. It very much looks as if the long wait is nearly over! Judging by the reaction so far, plus the renewed media interest, the Amiga is set to become world news once more, which is, of course, as it should be.

Ian Aisbitt

Above: Amiga in the press - four successive issues of MicroMart, no less.

Who's heard of AmigaOne?

Hi Guys,

Just read the latest issue, and found the adverts and information on the AmigaOne very interesting. If the software is available at launch, along with the promise of all the other 'classic' Amiga software being compatible, I think we will once again see the Amiga begin to rise back to the ranks of a well recognised product. The biggest problem that I can see is going to be a lack of advertising.

Without reading Amiga Active, or any of the Amiga related web sites, the mass market will know nothing about it, apart from word of mouth. Even now the majority of PC based magazines mention the Amiga from time to time, even if it is just to say it's not dead. It proves the market is listening, and waiting for the Amiga to return.

Serious considerations need to be made about advertising in the national press, and on TV. I realise

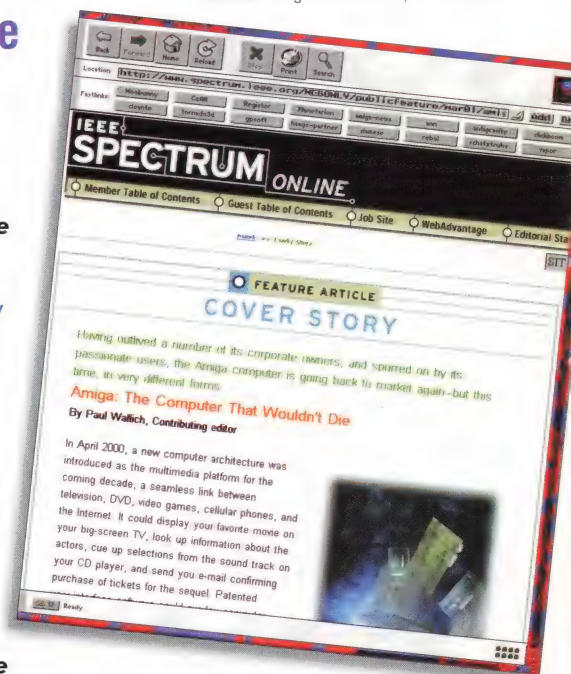
it will be expensive, but it will show everyone that although the Amiga was just a games machine, it's still here, and will walk over any other PC out on the market.

Anthony Wilcock

Our other correspondent this month doesn't see things quite the same as you - the media of the world is listening. However, the interest attached to the name will only get Amiga so far - we quite agree that marketing will be necessary.

It may be that Amiga themselves will never advertise much. Remember that they are not really launching new computers themselves, but are working with other companies to launch new devices. They would expect the Originating Equipment Manufacturers (OEMs) who will be producing these machines to advertise them. Of course, Amiga would most likely become a part of the branding of that device, and Amiga may have to do some marketing to really establish the brand.

Below: Amiga in the news, on the web.



Amiga have said that all will be revealed at St. Louis on the 1st of April, so we can't say anything just yet, much as we'd like to. Just make sure you buy the next issue of Amiga Active. Clearly they are planning on putting the Amiga's "April curse" to rest for good! **A**





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Ask the Guru

The Guru soon grew tired of sitting inside all day after recovering from his skiing accident. So this month, he's been learning to fly a fighter plane.



Hardware

Big upgrade dilemma

Dear Guru,

I have decided that it is time to upgrade my Amiga again and I want to upgrade the OS, graphics, sound, CPU, and memory. The OS is straight forward, OS3.9, but then it gets a little tricky, so I am asking your advice. I have a Voodoo 3 2000 & a SoundBlaster 128 card available, so I will need PCI slots. My current set-up consists of a BPPC 603/040, BVision, 32MB, OS 3.5 and a Prelude 1200 sound card. My hard drives are IDE, but I occasionally use SCSI. I also have a B1230 with SCSI in a 'spare' 1200.

"Would I be better off keeping my PPC card and buying a Predator?"

B1260? Are there any companies who do part exchange?

7) Would all programs (68k & PPC) be able to access the 16MB on the Voodoo? Or would some be limited to 8MB by the old architecture? The cost is not a significant factor as I have been saving up since my last round of upgrades in Jan '99. Thank you in advance for any help you could give with my questions.

John Monks, via e-mail

- 1) No problems there, except that the Shark PPC isn't out just yet!
- 2) Again, it is difficult to make any comparisons until we get our hands on the SharkPPC and get a good chance to test it out against existing cards. The context switching problem is allegedly almost nonexistent in the Shark as the two processors will run in parallel whilst sharing the PCI bus, thanks to interrupt software built into the Mediator's ROM.
- 3) Both processors share the memory bus, as is the case with current PPC cards, but the SharkPPC will be capable of taking up to 512MB in each of its two SDRAM slots!
- 4) Drivers for more PCI cards should be available in the near future, especially for common hardware like the SoundBlaster series. Drivers are usually created around a chip, rather than a brand of card, so if any other soundcards use the same sound chip, chances are they will work too. Add to that the fact that most PC soundcards are now SoundBlaster compatible, so you can really draw your own conclusions from that.
- 5) Yes. The 68K works completely separately from the PowerPC chip on the Shark, but shares the resources thanks to clever software in the Mediator's firmware.
- 6) Personally, I do not know of any dealers offering part-exchange deals unless you

- 1) My plan was to sell the Prelude, BVision, & BPPC and buy a Mediator with a Shark PPC and a 1260/50MHz which I can use with the B1230 SCSI card. Then add the Voodoo and SoundBlaster. Can you see any problems that this setup may have?
- 2) Would I be better off keeping my PPC card and buying a Predator? which would be faster - a Predator connected to my BPPC or a Mediator with a Shark PPC? What are the context switches like between a Shark and separate 68k accelerator? How do they equate in the real world i.e. a PPC game? (I am hoping you will have had a review of the Shark by the time this letter is printed).
- 3) If I stick 64MB into a Shark PPC, can all programs use it or just the PPC ones?
- 4) Are there drivers for the SoundBlaster 128 (or any PCI sound card)?
- 5) If I got a Shark PPC would I still need a 68k accelerator?
- 6) Do you know where I could sell my surplus equipment, or where I could buy a

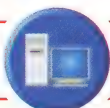
Feeling Blue? Ask the Guru

If you have any technical problems, tips you'd like to pass on, or requests for in-depth coverage of a particular problem, please send them to:

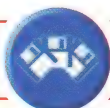
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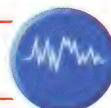
What do they mean?



Our lovely Guru will sort out your silicon.



Sloppy software? Bug the Guru!



Networking and the art of Zen explained.



Left: Is video-conferencing a possibility on the Amiga?

have some very expensive hardware. A good place to sell is AmiBench (www.amibench.com) which we also carry on our coverdisc each month.

- 7) The memory on the Voodoo card is pure graphics memory designed to hold data waiting to be displayed in the next refresh of the screen. Technically speaking it should be kept private, otherwise an unruly application could come along and corrupt the graphics data. Although, having said that, some enterprising bright spark did come up with a patch that allowed the system to access the 4MB of RAM on the PicassoIV cards as system memory. Not having tried it I cannot say what effect it had on the graphics card, but then I've never really been that hard up for an extra 4MB of RAM.



Software

Share and share alike

Hi Guru,

Please tell me how I can copy my graphics from my Amiga to a PC. Thank you oh great one.

Gerald Piwowar -

piwowar.gerald@sbe.saskatoon.sk.ca

There are a number of different ways you can do this, but by far the easiest is to transfer them via floppy disk, as long as the files aren't too big, of course. As you may already know, the Amiga can format and read MSDOS (i.e. PC) formatted floppies via the PC0: and PC1: devices.

If you have a high-density floppy drive, you will be able to read 1.44MB PC disks, but if these are not big enough to hold your graphic files, you'll need to look at the alternatives to the humble floppy.

The only other real option, besides messing about and splitting the files into small chunks so you can use floppy disks, is a network of some description. A serial network would be the easiest to set up.

The use of a 'null-modem' cable (or 'serial LapLink' cable as it is otherwise known) will allow you to run a terminal program (NComm or XTerm on the Amiga, and HyperTerminal on the PC) on each machine and transfer the files as in the old days of BBS's (Bulletin Board Systems).

If you are feeling really adventurous, and have some money to spare, you could go for an Ethernet network which would be the fastest, and could allow seamless internet sharing between the two machines as well. PC network cards are extremely cheap - if you have a Mediator PCI busboard, you'll be able to use them in your Amiga too. Otherwise, both Power Computing and Eyetech offer networking solutions for Amigas with PCMCIA slots, so give them a call if you're interested (see their adverts in this issue for more details).

If you have a big-box Amiga without PCMCIA capability, you'll need a Zorro networking card - but alas, these are becoming harder and harder to find. The Mediator, however, will soon be available for A4000s as well, so if your Amiga is an A4000, it may be worth the wait.



Workbench

Console Complaint

Dear Sir,

I have a CD32 with SX32Pro50 and I cannot read anything off your coverdisc. I have tried your suggestions inside the magazine but all I get is an error saying, "this is not a DOS disk". I normally have had no problems with previous discs. Is this due to the format of issue 17's CD?

John Randall, via e-mail

While I can't be completely sure what is causing your problem without knowing more about your setup John, I'll hazard a guess that the problem lies with your CD filesystem. The CD32 shipped with Workbench 3.1 which means it will be using the old Commodore CDFileSystem.

Our coverdiscs are produced using techniques that this dated software cannot cope with, and as such we recommend newer software for reading AACDs.

If you cannot access the disc at all, this may be a problem, but AsimCDFs is supplied on every AACD in the Resources directory. It can also be downloaded from Aminet, so all is not lost. You may experience some problems with AACD17 as this disc is made of two parts - a Debian Linux section and the normal Amiga section. This highlighted incompatibilities with some CD filesystems that our readers were using. Normal service should have been resumed by the time you read this though!



Hardware

Keep an eye on you

Dear Guru,

Is there any video conferencing software/hardware available for the Amiga? Please say 'yes', so I can replace the IBM forever! I'm getting dangerously close to finding something my miggy can't do but the PC can!

Chris Ferrell, via e-mail

Well, while it is not as simple as going out and buying a package that you plug in and use, video conferencing with an Amiga should be possible given the right selection of hardware.

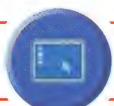
A camera is not the most difficult part to come by these days, as a lot of people possess camcorders (these typically have a composite output). The more difficult part is to try and find a video-capture card (like a VLab or VLab motion - both rather old nowadays) but provided you can meet these criteria, it should be possible to combine the hardware with some simple ARexx scripting.

In theory, you'd need an ARexx script to grab the pictures as quickly as possible (the VLab will manage about 4 frames per second - VLab Motion is realtime) and send them to the client as fast as you can.

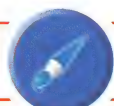
For on-the-fly compression/decompression, a PPC card would be particularly handy, and it would certainly speed up the incoming picture display too. Of course, the faster the connection to the client the better, as a modem would soon be bogged down by the saturated transmissions.

Hey, don't look at me like that. I didn't say it was easy, just possible!

The Guru A



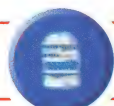
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Say WHAT? You must be bonkers!

Security is the key

Secure Socket Layers, encryption, private keys, certificates and cookies. Active Online dips its hand into the biscuit jar...

The web is changing. What was once a large library is becoming an enormous shopping mall. The library is still there, in among all the shops. You can still find amazing amounts of information that you may need, and even more that you don't need. But the web is becoming more than a source of information. It is now a trading place, many sites offer online ordering, even online delivery, and this is set to grow as the market for digital content expands.

"many sites offer online ordering, even online delivery..."

This means we need to be able to do more than transfer text and images. We need to be sure that sensitive information is going where it is supposed to go. Companies need to know that information you send it really coming from you, and servers need to be able to keep track of who is ordering what. Two technologies are used to handle this: SSL and cookies. Both were first introduced by Netscape and are now widely accepted as Internet standards.

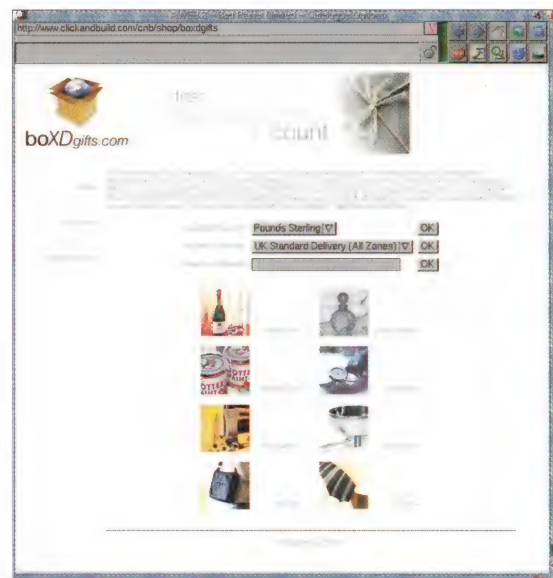
Secure Socket Layer

Secure Socket Layer (SSL) helps in two ways: encryption and authentication. SSL sets up a secure link between the browser and server that cannot be eavesdropped on by any intermediate machine. It uses secure encryption methods to ensure that any data sent can only be understood by its intended recipient. All of this happens transparently, provided your browser is able to handle SSL

connections. IBrowse 2.2 uses MiamiSSL, which requires you to be using a registered version of either Miami or Miami Deluxe. IBrowse will be able to use AmiSSL once version 2 of the library is released. AWeb 3.4 uses either MiamiSSL or the current version of AmiSSL. Voyager 3.2 is the only current browser to have SSL built in, although it can also use MiamiSSL. Provided you have the requisite software installed, any of these browsers will handle secure pages with no apparent difference to normal web pages.

When you first establish a connection to a secure site, one where the URL starts with <https://>, the SSL negotiation between the server and your browser sets up a "session". This is used for as long as you are connected to that server, saving the overhead of doing this for each connection. During this session setup, an encryption method is agreed on and a key generated. SSL uses a "private

key" system of encryption, where the same key is used by both parties to encode and decode the data. By contrast, public key encryption - as used by PGP - is far more processor intensive. Since every object on a page served over SSL has to be encrypted by



Above: You can buy almost anything on the web these days. SSL makes it safer.

"All of this happens transparently, provided your browser is able to handle SSL connections..."

the server and decrypted by the browser, secure browsing would slow to a crawl. The security risk of private keys going astray is eliminated by only using each key for the duration of a single session. The next time you or anyone else connects to the site, a completely different key is created.

Who goes there, friend or foe?

Encryption ensures that the information you send is unreadable by anyone other than the site you send it to, but how can you be sure that you are really communicating with who you think you are? What's to stop someone intercepting your transmission, sending their encryption key and being able to read data that you think you are sending elsewhere? This is handled by certifying each secure site. As part of the session negotiation when you connect to a secure site, the site sends its digital certificate, which includes various pieces of information, including the domain covered by the certificate.

A site on another server couldn't use the certificate of the company you think you are dealing with - your browser would reject the connection because the addresses don't match. It's a little like using caller ID to check that the person phoning you is actually calling from the number they claim to be calling from. Of course, you need to know whether the number they are using is the correct one for the company they claim to be. The only way to be sure of this is to verify it with an independent source, such as the

"...whenever you connect to a site using SSL, you can be sure you are communicating with who you think you are..."

telephone directory. Digital certificates work in a similar fashion.

Each certificate contains the digital signature of the organisation that issued it. If this is recognised by your SSL software, the certificate is accepted as trustworthy. If it is not recognised, the browser will look up the certificate for the issuer and see if it recognises who issued that. It tracks back up the chain of certificate issuers until it reaches one that it recognises as being trustworthy, or until it goes a set number of steps without finding anyone. Most certificates are issued directly by one of the main "Certificate Authorities" like VeriSign and Thawte (you may have seen these names on secure sites before, during your travels on the web).

Although the individual transactions use private key cryptography, the certificates contains the issuers public key from a private/public key pair. The initial transfer of an encryption key to be used during the session uses public key techniques, as used by PGP. It also uses digital signatures to ensure that each party is who they say they are and to prevent anyone intercepting the data and replacing it with their own.

As safe as houses?

The combination of certification and encryption means that whenever you connect to a site using SSL, you can be sure you are communicating with who you think you are and that your data is going only to them. It also means that even if the data were intercepted, no one else would be able to read it.

SSL makes using credit cards on the Internet more secure than with, say, the telephone. However, it only covers the journey from your browser to the web server. You still don't know what the recipient will do with it once they get it, any more than you know what the waiter does with your credit card when he takes it away from your restaurant table and brings it back a couple of minutes later.

While the human element can't be completely eliminated, some systems do process credit cards without the company you're buying from even knowing your number. The details can go straight to their bank who inform the company when the transaction has been authorised.

Neil Bothwick **A**

Pass the cookies

HTTP is what's known as a "stateless" or "connectionless" protocol. Your browser connects to the server, downloads a page with its images and the connection ends. If you click on a link on that page, the browser connects to the server again.

The server has no way of knowing that this page request came from the same person as the last one. This is fine when using the web for its original purpose, but it's pretty useless for online shopping. If the server doesn't know that the hard drive you selected on page two, the SIMMs you picked on page three and the address you gave on page four all came from the same person, you won't get your goods.

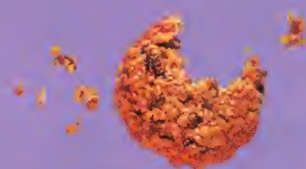
Cookies are a solution to this. When you first go to a site that uses them, the server sends you a small piece of text, called the cookie. The browser stores this, along with the address of the server it came from.

The next time you request a page from that server, the browser sees it has a cookie stored for it and sends the information to the server with the page request. If the server includes a user ID in the cookie, it can tell which requests come from you. The cookie is created by the server and sent to you, so it cannot contain any information about you that the server does not already have. It's not going to start leeching passwords and credit card numbers from your hard drive.

There are two types of cookie, persistent and temporary. Persistent cookies are saved to your hard drive and sent every time you connect to that site. Temporary cookies are held in memory and vanish when you quit the browser.

Because the browser only volunteers the cookies for the domain in use, it's not normally possible for a site to collect information sent by another site. There is a

small exception to this, however. While different sites' pages may be on different servers, banner ads often come from a server specifically supplying those ads. A cookie associated with a banner ad server would be sent to the ad server each time you loaded a page containing one of their ads. This information is usually used to track the types of pages you visit to serve the most relevant ads, but it could, in theory, be used less scrupulously. If you feel uncomfortable with this, simply disable cookies for advertisement sites.





THE TEAM

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This month's cover: TVR wouldn't let us have a car, but they did let us use some of their imagery.

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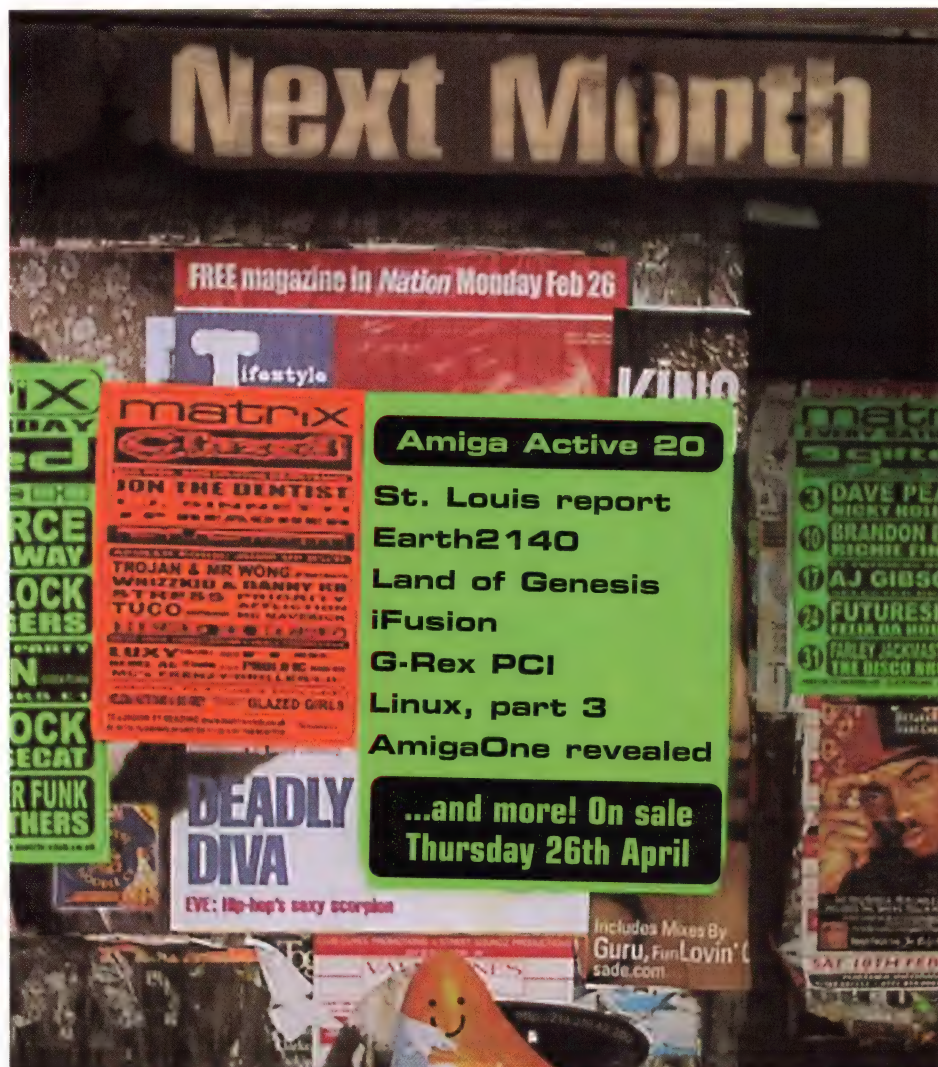
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been mostly working on
the magazine, but our

"Web Site"

still includes a new bit
with past reviews from
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Time for a new slot here in Amiga Active. We'll be taking that RetroActive vibe and mixing it with some of the best-known names of the Amiga market, past and present.



We kick off our new section this month by lightly grilling the Managing Director of a fondly remembered Amiga games company, now producing titles for the PC. Mike Montgomery has a standard to set... just like in the old days.

Amiga Active: Just mentioning the words "Bitmap Brothers" will bring a ton of memories flooding back to any 'old-school' Amiga gamers. You were responsible for such classic Amiga games as Gods, Xenon 2, Speedball 2, The Chaos Engine... how do you feel when you hear the names of those games now, Mike?

Mike Montgomery: It makes me feel proud that we were involved in games that people still talk about today - especially Speedball 2.

AA: Whatever happened to you guys anyway? When - and why - did you leave the Amiga market? Was it simply a case of staying afloat, or was there more to it? Don't worry, you can tell us the full story now, no-one is listening!

MM: The last Amiga game we did was Chaos Engine 2. By the time it was released in 1996 there was simply no market left and sales were poor - so we decided to concentrate on the PC from then onwards - we were developing Z for the PC at the same time as Chaos 2 for Amiga. So it was purely economics really - which was a shame for Chaos 2, as it's a top game!

AA: What do you consider to be the Bitmap Brothers' finest hour on the Amiga?

MM: It's a personal thing really - I think my favourite would be Cadaver as it showed the depth of the games we have produced. Speedball 2 is the most well remembered but Chaos 2 was probably technically the best game we did on the Amiga.

AA: And your finest hour of all time?

MM: When I had my first yacht and was sailing around Ireland - seeing the land appear on the horizon and knowing we'd made it was fantastic. Obviously, the birth of my kids would be another highlight. Right now, (we're finishing off Z:Steel Soldiers) a good night's sleep would be the finest hours I can imagine!

AA: Your past games for the Amiga provided a perfect mix of sound, graphics and gameplay. True classics of their time. How did you do it?

MM: We always did games that we'd love to play and I think the gameplay element always came through. We also considered the graphics and sound to be vital to the mix.

Personally I always preferred the Amiga to anything else...

AA: How do you see the current games market, compared to those heady days of the 80's and early 90's? Has any of that Amiga spirit survived within the Bitmaps now that you no longer produce games for the Amiga?

MM: The spirit is most definitely still here at The Bitmap Brothers as we're still a relatively small development team. I think there is innovation left at a development level and it just needs publishers to back this rather than the safe sequels that are so numerous. I know we're working on a sequel so this may sound a bit hypocritical, but you'll see that Z:SS is a huge development from the original.

AA: The Bitmaps have produced games for a whole host of platforms - Amiga, Atari ST, Archimedes, SNES, Sega Megadrive, Sega Master System, Commodore 64, CDTV,

Amstrad, Spectrum, Gameboy, PC... do you have any particular favourites? (Don't feel obliged to say 'Amiga', just because we're an Amiga mag!)

MM: Personally I always preferred the Amiga to anything else - it was a good time for swapping ideas within the development community.

AA: Is the future of gaming going to be on the desktop, or elsewhere?

MM: I think games will be played on a variety of different formats and we will be involved in as many as possible where we can see gameplay as important.

AA: What do you know about the Amiga these days?

MM: I know there's a new machine on its way - let's hope it is successful and I can get back to Amiga programming!

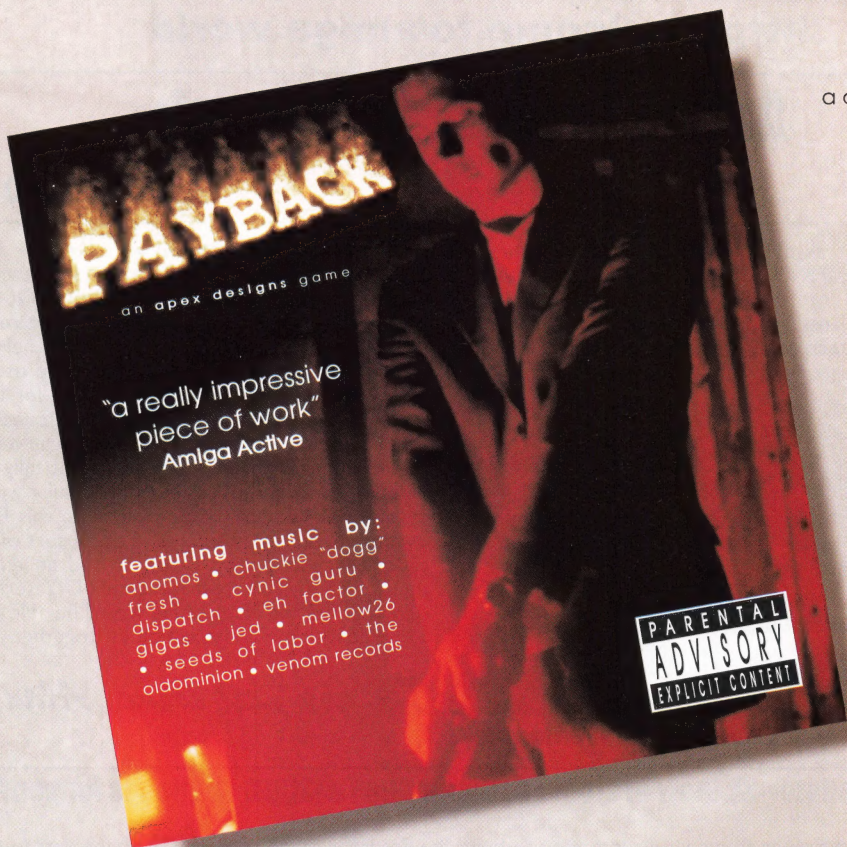
AA: Finally, if we gave you an A1200 now, what would you do with it?

MM: Mmmmm - give us the A1200 and then I'll let you know!

The Bitmap Brothers are just putting the finishing touches to their upcoming PC game, Z: Steel Soldiers. For more details, visit their web site: www.bitmap-brothers.co.uk

Who's Next?

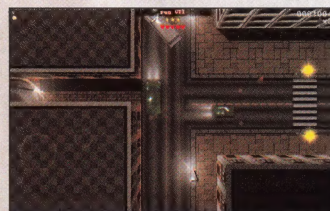
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lighting
effects



2-4 player
deathmatch
mode



"Apex Designs have done a wonderful job ... Payback is much more than just 'Grand Theft Auto on the Amiga'."

Amiga Active

"Payback is one of the most playable and addictive games I have ever played on the Amiga... £34.95? That is a pretty good price. Amiga games are (in general) cheap, but if you consider the gameplay quality that Payback offers, it should have been higher! ... The most enjoyable game in years! ... Apex Designs have created a real classic!"

BolngWorld.com (Rating: 91% - Gold Award)

"Every aspect of GTA has been equalled or bettered in Payback. The graphics even look better than the Playstation version and there is a possibility to run the game in very high resolutions... It's GTA - only better. Still mission based, has gorgeous graphics and is amazingly fast. If you have any Playstation owning friends and want to show off with your trusty old Amiga, first show them Wipeout 2097 and then Payback - casually remarking that it's only running on the 68k processor (Note: PPC upgrade will be released soon) - which will surely have their jaws cracking as they hit the floor."

AmigaFire.com

"All in all, Payback is for me the best game of the year." **Playamiga.de**

"Fantastic Fantastic Fantastic !!!!! I have not been able to stop playing this game since the postman came Saturday morning. The gameplay is amazing and the soundtrack is bang on for the game. Well done and it's been worth the wait. Definitely the best modern Amiga game since Wipeout 2097." **Carl Moppett**

"(Payback is) one of the very best games I have ever seen on the Amiga since the beginning!!! It's a pleasure to play."

Phillippe Bovler

"I bought Payback the other day, and ... I think it is absolutely bloody FANTASTIC!! WELL DONE!! I honestly haven't had so much fun from an Amiga game in YEARS!" **Steven Holmes**

..so why haven't **you** bought it yet?

available from

www.apex-designs.net/shop/
www.blittersoft.com/pback.html
 sales: +44 (0)1908 225 454
 fax: +44 (0)1909 579 740

Eyeline

Amiga news from Eyetech

April 2001

Editorial

Now we (really) are One.

At the end of March it will be exactly one year since Bill and Fleecy made their first public outing to the Amiga Community - at the St Louis Gateway 2000 show - and also since I first met both of them. More importantly it was the first time that they had had the opportunity for face-to-face meetings with real Amigans, and to understand their hopes and aspirations for their favourite computer. In particular it allowed Bill & Fleecy to find out first hand just why Amigans are so passionate about what is, in the final analysis, a particular arrangement of silicon, metal and plastic.

From those early, informal discussions came a realisation that it was time to give the community what they wanted - a new software platform that carried forward the best underlying philosophies of the Classic Amiga OS whilst replacing the tired and outdated bits with state-of-the-art components. As a consequence immediately after the show Amiga Inc started to hire the very best people from the community to develop the Amiga DE.

But what about the corresponding hardware?

Well most people - including vendors like ourselves - would agree that trying to push the existing 10+ year old designs any further is futile. Most A1200's now have far more electronics added on than they were ever supplied with as standard, and most of this is in a manner that the original designers said was inadvisable - if not impossible (see the Commodore A1200 hardware reference manual if you need proof). What we needed was state of the art, new, genuine-Amiga hardware, (and certainly not the rebadged 6-months shelf-life PC hardware that Jeff Schindler had suggested 2 years earlier).

But there was a problem. Amiga Inc had set themselves up as software/IP company, and had obtained funding from their external investors on that basis. So quite sensibly they sat down with us (and other potential partners) to write a manufacturing reference specification - the 'Zico' specification - for hardware to run the Amiga DE.

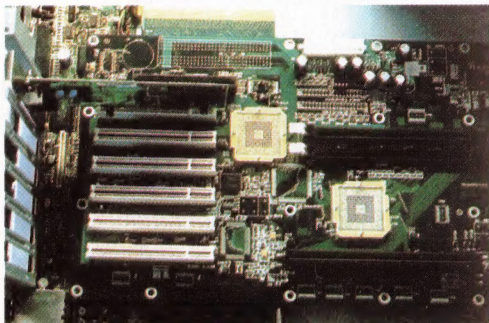
I believe our main contribution to this process was to re-engineer this specification so that our design - the AmigaOne 1200 & 4000 - would not only run the Amiga DE (and its native applications) but could also be used to run the Classic Amiga OS and applications directly. By including some clever electronics to make an existing Amiga 1200 or 4000 motherboard look like a PCI card to the new PPC-based AmigaOne even Classic applications that relied on the presence of the existing Amiga Chipset would continue to run. In fact the design also allows software to access and use Classic Amiga peripherals which are attached to the Classic Amiga motherboard - eg clock port accessories, sound samplers etc.

So from a process that started in St Louis last March - just one year ago - we will have a real AmigaOne to show you. And the progress on this has been even more remarkable when you realise that the majority of work over the past 12 months has been the all-important process of getting all of the many levels of the AmigaOne specification agreed. Less than 3 months (at the time of writing) has actually been spent in designing the board and custom chips for a state-of-the-art product which

(Continued in next column...)

is at least as complex as any contemporary PC motherboard.

For the latest information see our website at www.eyetech.co.uk/amigaone or join the mailing list at amigaone@yahoo.com.



The AmigaOne 1200 fitted into an EZTower-Z4

Finally, quite frequently we get asked for details about our Amiga-based industrial systems and - in particular - about our 19" x 2U Amiga 1200 rack mount case. Whilst this is not going to be relevant to Amigans just wishing to re-house their own A1200's for general purpose interactive use (our EZTower-Z4 is a much better solution for this) it is ideal for using an spare A1200 for process control, rolling presentations or security/surveillance (eg uploading webcam images automatically when a sensor is triggered) applications. Whilst we can't cover these sort of things in detail in this Eyeline column, if you are interested in these sort of applications why not drop David Stroud an email? If there is enough interest for a mini-DIY series I'm sure that we and AmigaActive would be able to put a low cost home construction kit together.

See you next issue. Alan.

Predator-SE (now in stock) or AmigaOne (2Q2001) : Which is for you?

When we first announced our intention to build the Predator range of PCI/AGP boards last Autumn, and released the philosophy behind the design of the boards we received an overwhelmingly positive response. At that time we announced two board families, the Predator-SE and the Predator Plus.

The Predator-SE is a low cost PCI-only expansion bus designed to attach to the localbus (graphics) connector on the BlizzardPPC accelerator (and equivalent for the CyberstormPPC/Mk3 accelerators for the A4000). This is the board to go for if you have an existing phase5/DCE PPC (or Cyberstorm Mk3) accelerator and wish to upgrade the graphics performance significantly to eg - a Voodoo 3-D graphics card and/or use low cost PCI ethernet/sound/etc cards.

The Predator-SE - now upgraded to 5 PCI slots - is now in stock priced at £129.95.

The Predator Plus took this design a stage further and incorporated an AGP graphics slot, SDRAM memory and a G3/G4 cpu on board. However in October last the Predator Plus was updated and used as the basis of the **AmigaOne** 1200/4000 design at the request of Amiga Inc. The new design has 6x PCI + 1 x AGP (graphics card) slots and can be used as either a stand-alone board (running the Amiga DE) or in conjunction with an existing A1200/A4000 motherboard to run Classic Amiga O/S & applications at high speed with a very high degree of compatibility. In this latter mode the AmigaOne functions as a very fast G3/G4 accelerator with the added benefit of 6xPCI & 1xAGP expansion slots for graphics and other I/O expansion. The AmigaOne does not require (or use) any other Amiga accelerator. The AmigaOne should be your choice if you want to give your existing Amiga a major boost in terms of cpu and I/O power or run the forthcoming AmigaDE and applications - or both.

The AmigaOne is currently in prototype form with end user boards on schedule to ship to beta testers following Amiga Inc's St Louis show announcements at the end of this month. Pricing will be announced when the board goes into final production so we can take advantage of any price drops.

Both the Predator-SE and the AmigaOne will be available in separate form factor versions for the A1200 and A4000 (with versions for other Amigas following if there is sufficient demand). A1200 versions are designed to fit into a standard tower conversion (including Eyetech's EZTower Z4, the Elbox A1200 tower and its Power/Winner tower variants). The A1200 version will also fit in a standard ATX tower case for use as a standalone system running the Amiga DE. A4000 versions are designed to fit in an A4000 Desktop conversion tower such as our own EZTower 4000 or the Elbox A4000 tower.

The 3D graphics drivers for both the Predator-SE and the AmigaOne are being ported by Hyperion Software. Initially drivers will be available for the Voodoo3, 4 & 5, Permedia2 and Virge 3 graphics cards.

Special Limited Stock offers This Month Only (until 30-04-01)

We have a few 'specials' left over from the fantastic HAUG Alt-WoA show last month. So if you didn't make the show and/or ran out of stamina and/or money now is your last chance to buy at these very special prices (normal carriage applies). When they're gone, they're gone!

- 19" 1600x1200, 150MHz .26 monitor £219.95
- Classic Squirrel PCMCIA SCSI interface £39.95
- Amiga Classic OS3.5 (new, boxed) £19.95
- Aladdin 4D modelling/rendering s/w £29.95
- IOBlix 1.5MBps clock port serial i/f £29.95
- PC (only) parallel port scanner (new) £29.95

New EZMouse PS2- to-Amiga mouse adapter + super mice bundles

Following requests from our customers we have brought in a new range of hi res mice/EZMouse bundles. All bundles come with commodity software allowing you to assign the 3rd/4th/buttons &/or scroll wheel to Amiga functions such as screen flipping, window scrolling etc.

- EZMouse plus 520dpi wireless mouse - £49.95
- EZMouse plus 520dpi wheel mouse - £39.95
- EZMouse plus 520dpi 3-button mouse - £29.95
- EZMouse plus EZKey-SE/P + infrared keyboard with mouse facility - £59.95
- EZMouse+ free 2-button PS/2 mouse - £19.95

This is just a small selection from our vast range of Amiga products and accessories. Please see our web site, see our full price list on this months AmigActive CD or send 39p in stamps for a full product listing and price list.

EZTower and Tower accessories

EZTOWER OPTIONS - The EZTower-Z4 is the latest state-of-the-art tower specifically designed to take the A1200 Z4 expansion bus-board. Available as a DIY kit, ready assembled or via our fitting service.

EZTower Mk5 with 250W PSU, 6x 5.25" bays & 3x 3.5" bays, floppy drive cable & faceplate, LED adapter and full instructions. (62x42x19cm) **£89.95**

EZTower-Z4 with 250W PSU, 3x 5.25" bays & 4x 3.5" bays floppy drive cable & faceplate, LED adapter and full instructions. (48x44x18cm) **£99.95**

EZTOWER ACCESSORIES

EZKey Mk2 Ribbon cable slot PC/Amiga keyboard adapter with free PC keyboard. 5pin DIN **£28.95**

EZKey-SE/A CIA-fitting A4000 keyboard adapter for A1200/A600/A4000. 5pin DIN socket **£18.95**

EZKey-XS CIA-fitting PC/A4000 autodetecting keyboard adapter for A1200/A4000 with xMON control, infrared decoding for CDTV remote with full alphanumeric mapping, 4 x PC keyboard mappings, keyboard operated ATX PSU on/off control etc. 5pin DIN socket **£39.95**

Z4 BUSBOARDS AND BUNDLES

Z4-Bus A1200 expansion busboard 5x Z2 slots, including 2 x high speed slots & video slot, 2x Z4 slots for future ultrafast cards, 4x clock ports and accelerator pass through connector **£99.95**

Z4-Bus & CV64-3D graphics card **£249.95**

Z4-Bus & CV64-3D, AMON/F **£289.95**

Z4-Bus & CV64-3D, INSD2, AMON/F **£339.95**

Z4-Bus & CV64-3D, INFF2, AMON/F **£369.95**

Z4 Tower, Z4-Bus, PC k/b, EZKey-SE **£199.95**

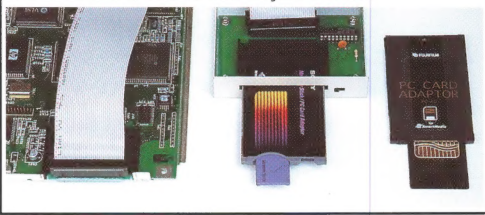
Z4 Tower, Z4-Bus, CV643D, EZKey-SE **£349.95**

Z4 Tower, Z4-Bus, CV64-3D, A4000 k/b & adapter, AMON/F, EZVGA INFF Mk2 **£449.95**

Read & Write Digicam memory cards direct from Workbench with the EZCam adapter

The EZCam hardware extends the PCMCIA slot so it can be mounted in a 3.5" drive bay for easy access and adds hardware logic to allow digital camera cards (memory stick, smartmedia, compactflash) used with a PCMCIA card adapter (not included). When used with the supplied driver the camera card automatically mounts as a drive on the desktop, allowing picture files to be copied or displayed directly. A front panel switch disables the additional logic for full compatibility.

The EZCam is available now at just £49.95.



MASPlayer - an MP3 player which works with all Amigas from the A500 upwards.

The MASPlayer uses the same hardware decoder chip used by the award-winning Diamond Rio MP3 players. It plugs into the parallel port, has a 3.5mm mini stereo output jack and draws its power from a pass-through connector on the serial port. Unlike software MP3 players it makes very low demands on the CPU allowing full, usable multitasking. The MASPlayer supports all bit rates (including variable bit rates) when used with an '020 cpu or above and gives excellent sound quality. It is ideal for turning your old Amiga into a sophisticated MP3 player, or simply as an add-on to your existing configuration.

The MASPlayer is now in stock priced at just £69.95

A1200 ACCELERATORS '030 from £44.95, '060 fr £179.95
72-PIN SIMM MEMORY - from £12.95
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Amiga/PC networking, Amiga & PS/2 mice & trackballs etc, etc.

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Eye-Surf: full secure internet connectivity via your TV for just £78.95!



The Eye-Surf is complete Plug-and-Play internet solution that works entirely independently of your Amiga (or other computer). It has a built in modem, SCART RGB/composite output and pass-through sockets, a printer port, an infrared keyboard and SCART and phone extension leads. The Eye-Surf has a fully de-interlaced, hi-colour display, with antialiased fonts and selectable text rendering sizes to accommodate different sizes of (TV) display. The Eye-Surf has full SSL support built-in for secure web site ordering. Best of all we are offering 10% off the list price of any Amiga orders placed using the Eye-Surf within 6 months of its purchase!

UK NEXT DAY* INSURED DELIVERY CHARGES : OS 3.9, S/W, Cables, EZCD I/F = £3 ; 2.5" HD's, Accel'tors, Manuals = £7 ; 3.5" HD's, FDD's = £9 ; CDPlus, Scanners = £11 ; Systems, Monitors = £15 ; Tower + monitors = £23

UK Bank/BS cheques, Visa*, Mastercard*, Switch, Delta, Connect, Solo, Electron. Postal/Money orders accepted. (* 3% clearance charge applies to all credit card orders). Due to space limitations some of the specs given are indicative only - please ring/write for further details. Please check prices, specification and availability before ordering. **If ordering by post, please provide a daytime telephone number.** All goods (excluding opened or used software) may be returned in perfect condition within 7 days of invoice date for a refund (excluding carriage, services and card clearance charges). A1200 items are tested with a Rev 1.D.1 motherboard - other boards may need modification. Items subject to mechanical wear & tear (eg keyboards) are limited to 90 days warranty on those components. E.&O.E. All prices include VAT at 17.5%. Orders sent outside the EC do not incur VAT - divide the prices shown by 1.175 to arrive at ex-VAT prices. All goods are offered subject to availability and our standard terms & conditions, copies of which are available upon request. **AA19**

email: sales@eyetech.co.uk

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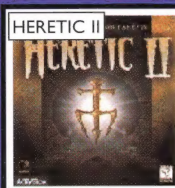
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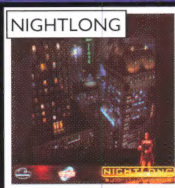
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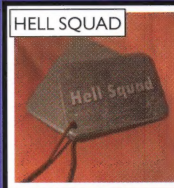
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AF - 92% Gold Award, 9/10 - AmigActive PPC, CDROM, HD 24MB, 3D Gfx card



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'Excellent point-and-click action', 3/4 - AmigActive 68030, 16MB, HD, CDROM



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'Very playable arcade adventure' 3/4 - AmigActive 68030, 6MB, HD, CDROM



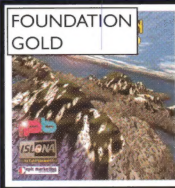
NAPALM **£29.95**

'An absolutely cracking, original Amiga game' - AF 68040, 16MB, HD, CDROM



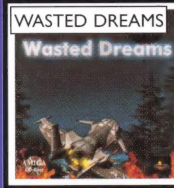
T-ZERO **£24.95**

93% - AF Gold Award, 9/10 - AmigActive AGA, 68030, 8MB, HD, CDROM



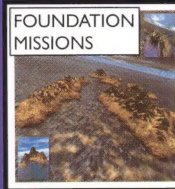
FOUNDATION GOLD **£24.95**

'The ultimate Amiga strategy game', 3.5/4 - AmigActive 68030, 8MB, HD, CDROM



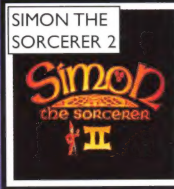
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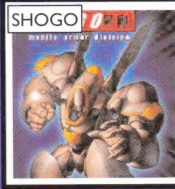
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'You'll like it. A lot.' 4/4 - AmigActive AGA or Gfx card, 68030, 16MB, CDROM, HD



SHOGO **£39.95**

'A very addictive game ...' AmigActive preview PPC, Gfx card 32MB, CDROM



EARTH 2140 **£29.95**

Forthcoming Review Gfx Card, 32MB, 68040, HD, CDROM, OS3.1+

SO THE WORLD MAY KNOW

**Begin exploring
the new AmiVerse**

This SDK is a good first look at the architecture and framework of the new Amiga Operating System.

It is designed to introduce Virtual Processor (VP) coding: the language of choice for the new Amiga OS. With it, developers can begin creating tools to aid themselves and others in porting and creating applications.

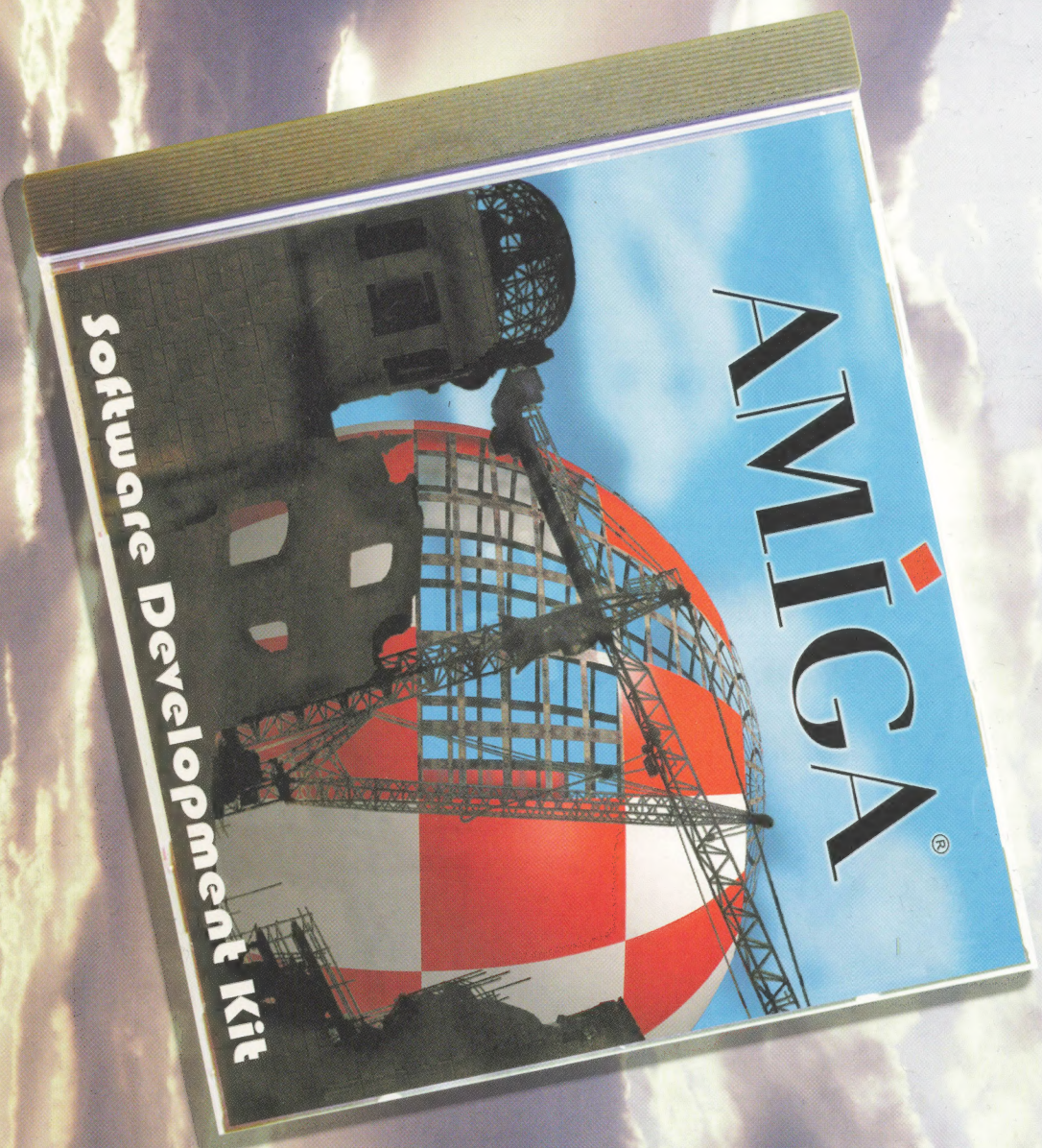
Today, you can shape the Amiga of tomorrow.

System Requirements:

- A compatible AMD or Pentium Processor based personal computer.
- Red Hat Linux 6.1 running XFree86
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Developers may contact Amiga Inc. by phone at the **Amiga support line: +1 425-396-5640** or get more information at <http://www.amigadev.net>

Some portions of the AmigaDev site will be under NDA. If you wish to obtain an NDA, simply e-mail your request to developer@amiga.com



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